

# Articles

## THE BIOLOGY OF MORALITY

by Nancy K. Morrison and Sally K. Severino

*Abstract.* The morality of human beings, defined here as our ability to determine whether our actions are right or wrong, depends not just on following rules but also on understanding the impact of our actions on another person. How we understand the impact of our actions on another person depends on our state of consciousness, which is mediated by our brain and nervous system. We describe how we understand our morality to flow naturally from the biological state we are living in and how we see our biology and our morality as mutually interactive. A change in one changes the other. Another way of saying this is that changing either our morality or our biology changes both—changes who we are and what we do.

*Keywords:* attuned consciousness; biological state; first nature; morality; personhood; second nature.

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The scientific groundwork for our understanding of the biology of morality resides primarily in three sources: attachment theory, the neurobiological origins of the self and interpersonal experience, and emerging information about the biology of spiritual experience.

John Bowlby, a British medical doctor and psychoanalyst, developed attachment theory, which postulates that we human beings begin life with an inborn capacity that promotes attachment to our mother (Bowlby 1969). He viewed attachment seeking as instinctive social behavior with the

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[*Zygon*, vol. 38, no. 4 (December 2003).]

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biological function of maintaining proximity to a caregiver. Bowlby used his clinical observations of mother-child relationships to describe how these relationships become the means by which we bond to one another throughout life. Mary Ainsworth, Bowlby's associate, expanded Bowlby's view of attachment seeking by recognizing that children need not only proximity to caregivers but also emotional access in order to form attachment bonds. She further described that attachment seeking varied in intensity with perceived danger but was always functioning for preventing separation from and for gaining emotional access to a caregiver. To scientifically investigate attachment seeking, Ainsworth invented a videotaped procedure (Ainsworth, Blehar, Waters, and Wall 1978). This laboratory procedure, called the Strange Situation Test, made it possible to classify particular qualities of the attachment relationship between a child twelve to twenty months of age (at the height of separation anxiety) and a caregiver. In the Strange Situation Test both child and caregiver play in a room supplied with toys until a friendly stranger (the experimenter) joins them. The caregiver then leaves the room, returns after three minutes, and resumes playing with the child and the experimenter. Then, both caregiver and experimenter leave. After another three minutes, the caregiver returns, which ends the experiment. Later, researchers view the taped situation and code the caregiver-child interaction, classifying the child according to one of three attachment patterns: secure attachment to the caregiver, insecure attachment, or disorganized/disoriented attachment.

A former student of Ainsworth, Mary Main, later more fully described the disorganized/disoriented attachment pattern. Some children studied in the Strange Situation Test were followed up to nineteen years of age. Their original attachment pattern predicted subsequent behavior patterns, especially patterns of interpersonal relating with parents, teachers, and peers. Interest arose about caregivers' attachment patterns. To study caregivers, Main, together with Eric Hesse, developed the Adult Attachment Interview. This semistructured interview elicits a narrative of the adults' childhood memories of separations and losses, memories of illnesses, and memories of feelings such as feeling loved or unloved (Hesse 1999). Main and Hesse use a highly structured system to rate various aspects of the autobiographical narrative so that the adult can be reliably classified into attachment patterns that both reflect how the adult bonded with his or her parents in the past and also predict how the adult will bond with his or her own children in the present or in the future (Hesse and Main 1999; 2000). Their work carries profound implications for understanding how we communicate both verbally and nonverbally from one person to another and from one generation to another.

For understanding the neurobiological origins of the self and of our interpersonal experience, we draw upon the work of psychologist Allan Schore and psychiatrist Daniel Siegel. Schore stresses the importance of

the rapid growth and structuring of the right orbitofrontal cortex of our brain in the first eighteen months of life for the development of the self. The orbitofrontal cortex anatomically and functionally connects through neural networks with the limbic system and with the brain stem. The limbic system mediates our emotional and social information. The brain stem mediates our arousal and physiological states. The orbitofrontal cortex wields the executive function of coordinating the interactions of these three brain areas. In doing so it regulates neural integration of our autonomic nervous system and emotions, determines our response flexibility to inner and outer stimuli, and mediates our social cognition. The orbitofrontal cortex is also involved with our creating an autobiographical narrative (Schore 1994; 2000a; 2000b). Thus, Schore's work supplies the neuroanatomic and neurophysiologic underpinnings of the observational research of Bowlby, Ainsworth, Main, and Hesse.

Siegel extends Schore's work by focusing on the neurobiological origins of our interpersonal experiences. He focuses on brain growth of the left hemisphere that accelerates at about eighteen months of life. During this growth spurt, children develop verbal language and the ability to know that another person is a human being with feelings and intentions. Specifically, Siegel introduces the concept of interpersonal attunement as the way that our brains directly influence and change each other (Siegel 1999). Both Schore and Siegel emphasize the importance of the early years of life, when the attuned exchanges between caregivers and child structure the neural networks and physiology of the developing brain.

This brings us to our third source for understanding the biology of morality—the religious traditions and spiritual experiences that throughout history have provided human culture with moral codes. Recently, information about the biology of spiritual experiences has been emerging from various sources, including philosophy and several disciplines within medicine (Austin 1999; Churchland 1995; d'Aquili and Newberg 1999; Greenspan 1997; Newberg, d'Aquili, and Rause 2001; Revel and Ricard 1998; Solms 1996). These sources describe different states of human consciousness and point to the idea that, although there are different routes to specific states of consciousness, alternate states do exist beyond our ordinary states of consciousness.

Ordinary states of consciousness include our daily waking state during which we are aware of our perceptions, thoughts, and feelings; our slow-wave sleep state during which our awareness usually has no content; and our desynchronized sleep state during which we dream. Beyond these states neurologist James Austin (1999) has described two meditative states of consciousness (shallower and deeper), three extraordinary alternate states of consciousness (heightened emotional awareness without sensate loss, absorption without sensate loss, and absorption with sensate loss), and

three advanced extraordinary alternate states of consciousness (insight-wisdom, ultimate being, and ongoing enlightenment). The states of consciousness beyond the ordinary are accessed through religious and spiritual practices.

Mystics of all great religions across cultures and time describe virtually identical experiences of the state of consciousness where their awareness senses unity and attunement with all of creation and with the transcendent. Austin (1999) calls this state one of unbounded external and internal awareness and considers it an advanced extraordinary alternate state of consciousness. Psychiatrist Eugene d'Aquili and radiologist Andrew Newberg (1999, 14) call this state the "state of absolute unitary being." Biological correlates of this state include electroencephalogram changes and desynchronization of circadian rhythms (Austin 1999), autonomic nervous system changes (Austin 1999; Newberg, d'Aquili, and Rause 2001), brain metabolism changes (Austin 1999), and brain-imaging changes (d'Aquili and Newberg 1999). We suggest that the biological correlates of different states of consciousness link the biology of spirituality with the biology of interpersonal attunement.

While it is well known that anatomic and physiological reactions do give rise to behavior and that circumstances do cause changes in our biology, the effects of our biology, psychology, and sociocultural circumstances on our spirit and our spirit's effects on them have been neglected. Considering these interactive effects has led us to hypothesize how biology may be one of the determinants of human moral behavior.

#### ATTUNED CONSCIOUSNESS

Our central concept for understanding the biology of morality is *attuned consciousness*. When we consider together what Bowlby, Ainsworth, Main, and Hesse have shown us about human attachment and communication, what Schore tells us about brain and nervous system functioning, what Siegel tells us about attunement and brains directly influencing one another, and what Newberg and others demonstrate about experiencing alternate states of consciousness, we conclude that human personhood—from which our morality flows—is the product of an interactive process that we call attuned consciousness. Attuned consciousness is the interactive exchange of information and energy between one human being and another, between one human being and other elements of creation, and even between different aspects (biological, psychological, social, and spiritual) within one human being that connects us in relationship.

We conceptualize attuned consciousness as a product of our spiritual aspect and as related to alternate states of consciousness. This distinguishes it from ordinary states of consciousness, which are products of our brain. To the extent that our biological, psychological, social, and spiritual as-

pects exchange information and energy, a mutually interactive process occurs. This bidirectional interaction of attuned consciousness influences how our brains develop, how our minds develop, and how our bodies function and determines who we are and what we do.

Our deliberate placement of attuned consciousness in the spiritual aspect of human personhood rather than in our brain (biology) or in our psyche (psychology) reaps the benefit of bringing the soul back into our conceptualization of human personhood. Even though in modern times the human psyche is equated with the mind, the ancient Greeks considered psyche to be the soul. Webster defines *soul* as “the spiritual principle embodied in human beings” (Seventh New Collegiate Dictionary). Thus, by using *soul* in the sense of our spiritual aspect of personhood, we reclaim the original Greek meaning of *psyche* and move out of mind/body dualism.

This adds another dimension to understanding human personhood. Our spiritual aspect takes its place along with the brain as a body organ and the mind as the functioning of the brain. It influences and is influenced by our biology. We experience this spiritual-biological interaction as the functioning of our brain that mediates our consciousness in terms of our state of being responsive to sensory stimuli. Our spiritual aspect also influences and is influenced by our mind. We experience this spiritual-mental interaction as the functioning of our brain that mediates our consciousness in terms of our awareness of subjective experiences. How our spirit-mind functions in our biology influences both the internal personal meanings we make of our actual psychological and sociocultural experiences and the autobiographical narratives we construct. Our spiritual aspect is inextricably embedded in the biological, psychological, and social context of human existence. Anything that affects one aspect of human personhood affects all our aspects.

Thus, attuned consciousness builds on the concept of consciousness. *Consciousness* derives from two Latin words: *scire*, which means “to know,” and *cum*, which means “with.” While consciousness is “to know with,” attuned consciousness is “*how* we know with.” It is how one consciousness connects and interacts with another consciousness. It is the mutual interactive exchange of information and energy within the various aspects of our personhood, between us and other human beings, and between us and the mystery of all life. Although scholars at times focus on only biological or psychological or social or spiritual, these aspects of our human personhood cannot really be separated. They are continually in mutual interaction creating our psychobiospiritual being. From this psychobiospiritual personhood flows our morality.

What is morality? Morality is deeper than the mere social conventions of behavior. The word *moral* comes from the Latin *moralis*, meaning “of customs,” and is etymologically related to the word *mood*. *Moral* is defined in Webster as “relating to principles of right and wrong in behavior”

and "sanctioned by or operative on one's conscience." Our conscience is our capacity to reflect on the effects of our behavior on the personhood of another (Morrison and Severino 1997). We know our effect on another through attuned consciousness, that is, through the interactive exchange of information and energy occurring within the encounter.

Morality is thus based on human relationships. To the extent that the way we attune to one another produces biological states that influence our being, our morality derives from both our relationships and our biology. What we deem to be right or wrong is relative to our biological state.

We conclude that morality is our ability to determine whether our actions are right or wrong depending both on following rules and on knowing the impact of our actions on another through our attuned consciousness. Without attunement we would have no morality. Indeed, neuropsychological studies of persons with orbitofrontal cortex damage show impairment of the capacity to attune to others and impairment of moral behavior (Schore 1994).

#### HUMAN PERSONHOOD

Attuned consciousness is innate in human personhood. Bowlby called our attention to attuned consciousness when he observed that we are born with an innate capacity that promotes attachment behavior. We see attuned consciousness and feel it at work between mothers and infants gazing at each other when mother's smile elicits her infant's smile or the infant's smile elicits mother's smile and fills both with joy. Mother's frown elicits her infant's distress, or infant's frown elicits mother's distress, and both suffer distress. The longer an infant looks at his mother's face, the more he expresses her mood, and vice versa. The experience is bidirectional, with the emotional expressions of the one eliciting emotions in the other (Bowlby 1969) and eliciting the same emotions in anyone observing the experience with attuned consciousness. A joyous experience is the result of consciousnesses connecting in resonant attunement. A distressing experience results from consciousnesses connecting in dissonant attunement.

The biology of resonant attuned consciousness differs from the biology of dissonant attuned consciousness. Because scientists are still at the fact-accumulation stage, the exact biology of resonant and dissonant attunement is not fully known. Perhaps we know most about the functioning of our autonomic nervous system and how it changes with different states of consciousness. The sympathetic nervous system arouses us, and the parasympathetic nervous system slows us down. The sympathetic nervous system increases our respiration, heart rate, and blood pressure, which readies us for fight or flight. Our parasympathetic nervous system decreases our respiration, heart rate, and blood pressure, preparing us for rest and relaxation. We also know that the autonomic nervous system interacts with

our limbic system, which mediates the mood states we experience. Resonant attunement is associated with states of pleasure such as joy. Dissonant attunement is associated with states of distress such as fear and anger. We also know that our brain is constructed for communication—communication between our right and left brain hemispheres and communication from our brain cortex to our mid-brain to our brain stem and out into our systemic autonomic nervous systems. Therefore, experiences of attunement involve changes in all systems of the brain, body, mind, and perception. Finally, we know that our autonomic nervous system connects with the orbitofrontal cortex of our brain, which mediates our experiences of attunement with others and all of creation.

More specifically, within the experience of joy, the emotional state resulting from resonant attunement, we understand that our orbitofrontal cortex facilitates a state of balanced autonomic nervous system arousal. Part of the biology of joy is the limbic system's release of dopamine, a neurotransmitter involved in positive emotions such as elation (Schore 1994; 2000a, b). This has led us to the hypothesis that resonant attuned consciousness, experienced as joy, reflects the orbitofrontal cortex facilitating the level of arousal of the two autonomic nervous systems so that they are balanced and augmenting this positive emotional experience with dopamine from our limbic system. One psychiatrist has called this an experience of "feeling felt" by another (Siegel 1999).

Different physiological states derive from the experience of dissonant attunement, depending on the nature and severity of the dissonance. One of these states appears naturally in toddlers at about fifteen to sixteen months when socialization begins. The toddler runs to mother expecting a joyful response from her (a mutually attuned elation) and instead finds unanticipated noncooperation. This triggers a shocklike reaction, where the toddler's physiological and emotional response is one of rapid reduction of arousal as her autonomic nervous system suddenly shifts from sympathetic dominance to parasympathetic dominance (Schore 1994; 2000a, b). The toddler stops in her tracks and loses interest in her environment. Part of the biology of this shocklike reaction is the offset of the limbic system's release of dopamine and the onset of noradrenergic circuits together with a reduction of endorphin and elevation of corticosteroid neurohormonal activity (Henry and Wang 1998; Wang 1997; Schore 1994). We authors recognize this as an experience of acute dissonant attunement. Some experiences of dissonant attunement are overwhelming, such as occur with physical or sexual abuse. We posit that these traumatic dissonant attunements split our state of consciousness into the simultaneous experience of the self as defective and the other as critical, judging, and invading. Both parasympathetic and sympathetic nervous systems are aroused, producing a hyperaroused limbic system that triggers the feelings of humiliated fury and retaliatory rage (Schore 1994; 2000a, b).

Acute dissonant attunement experiences are necessary for human socialization and eventually foster empathy, which is awareness of attunement or “mindsight” (Siegel 1999). As far back as thirty-five years ago, scholars anticipated that the neural substrate for empathy would reside in the prefrontal cortex and its limbic connections (MacLean 1967). Now we hypothesize that socialization leads to empathy—through both resonant and dissonant attunement experiences—that develops the neural networks connecting our orbitofrontal cortex with our limbic and our autonomic nervous systems. Through our attuned consciousness we realize that we are experiencing another’s feelings simultaneous with the other experiencing what we are feeling. Empathy is reciprocity, valuing and respecting one another’s feelings and recognizing that both have the same and different feelings. From these moments of reciprocal attunement springs our morality. “To be distinctively human—different from, say, a genetically very similar chimpanzee—is to develop this unique empathetic component that is the foundation of all morality” (Hrdy 1999, 392).

We posit that our morality reflects the biological state we live in. If we live in a state of joy, such as occurs when our autonomic nervous system is balanced and our limbic system is secreting dopamine, we experience love, and our morality expresses valuing based on love. If we live in a state of humiliated fury or retaliatory rage such as occurs when our autonomic nervous systems are aroused and our limbic system is hyperaroused, we experience fear, and our morality expresses judging based on fear.

#### THE STRUCTURE OF BEING HUMAN

We can now conceptualize the nature of being human based on our innate potential to desire resonant attunement. For this potential to develop to its fullest, it must meet and be met by a similar desire for resonant attunement from another person. For the human infant this will be his or her caregiver. The right hemisphere of the caregiver’s brain serves as a template for developing the infant’s right hemisphere. When the caregiver’s face shares nonverbal information in resonant attuned consciousness, the exchange creates joy in both participants. Optimally we are conceived and birthed in resonant attunement, where positive emotional exchanges between our caregivers and us dominate our first year of life. These reciprocal attunement experiences shape our brain connections that fuel our desire for more resonant attunement and also strengthen a positive cycle that directs our growth into goodness and a morality of valuing based on a biological experience of the emotion called love (Carter 1998; Porges 1998). We call this growth into goodness and a morality of valuing based on love our *first nature*.

From birth and throughout life our first nature is a state of wholeness where our attachments with others are secure and where we see ourselves



and others clearly without bitterness or complaint. We experience both resonant and dissonant attunement without our consciousness being split in two by them. In a state of wholeness, the brain neural networks (Leiner, Leiner, and Dow 1991; Mesulam 1990) are integrated and not split off by overwhelming and unrepaired dissonant attunement experiences (Shapiro [1995] 2001a; 2001b). When our neural networks are integrated, our minds tell coherent autobiographical narratives about our psychological and social circumstances (Ainsworth, Blehar, Waters, and Wall 1978; Hesse 1999; Hesse and Main 1999; 2000) and our spirits live in a state of resonant attuned consciousness.

Perhaps the purest experiences of our first nature are transcendent experiences such as those studied by Newberg and d'Aquili. They have delineated five autonomic nervous system states associated with spiritual experiences and studied how these states work together with the limbic system and brain cortex to explain spiritual experiences as neurologically real functions (Newberg, d'Aquili, and Rause 2001). When they studied Tibetan monks meditating and Franciscan nuns praying, they found that their brain scans displayed increased neural activity in the prefrontal cortex and decreased activity in the posterior superior parietal lobe (d'Aquili and Newberg 1999; Newberg, d'Aquili, and Rause 2001). Both groups perceived their state of consciousness as suffused with neutral or positive emotions, what we call resonant attunement with the oneness of all creation.

In a state of resonant attunement where our consciousness is whole, joy motivates us to be good. This impulse to be good we call a primary incentive for good. A primary incentive for good is a wish to be good in order to bring pleasure to and experience pleasure with another because of the joy that resonant attunement brings.

Our worldview when we live in a state of wholeness, in our first nature, derives from development within resonant attunement where we experience life as innately good. Such an experience convinces us that (1) innocence, goodness, and a striving for integrity are primary; (2) violence and aggression are reactive to the frustration of our desire for resonant attunement rather than inherent; (3) violence neither redeems us nor restores us to resonant attuned consciousness—violence creates more violence; and (4) violence and aggression need not be expressed as such but can be managed by being recognized and owned and by reparation within relationships of resonant attuned consciousness (Severino and Morrison 1999).

Reparation is a process of healing states of split consciousness resulting from dissonant attunement experiences. When the split results from an acute dissonant attunement experience, such as occurs in socialization, it is relatively easy to repair. For example, her mother's No! in response to two-year-old Susie's behavior will cause Susie to stop in her tracks as her consciousness splits between her experience of herself as small and disapproved

and her experience of her mother as large and disapproving. If her mother can both disapprove of Susie's behavior and also resonantly attune to Susie's painful state of experiencing disapproval, she can help Susie understand that "No" reflects neither bad Susie nor bad mothering but Susie's growth and her mother's appropriate new expectations of her daughter. In other words, her mother repairs Susie's state of split consciousness by helping her develop a capacity for learning from and repairing the unavoidable dissonant attunement experiences she will encounter in life.

Reparation of traumatic dissonant attunement experiences—such as those that occur when both autonomic nervous systems are aroused producing a hyperaroused limbic system that triggers the feelings of humiliated fury and retaliatory rage—is more difficult. Reparation requires a profound emotional re-experiencing of the dissonant attunement with a person whom we trust and who is resonantly attuned to us. We will give an example of such reparation shortly.

Our morality when we live in a state of wholeness, in our first nature, expresses valuing based on love. We manifest in our behavior how we attune to others, which expresses who we are. When we attune in resonance, our biology reflects being loved and loving (Carter 1998; Porges 1998), being valued and valuing. We willingly accept being good and give permission for others to be the same.

Psychologist Jack Kornfield tells a poignant story that illustrates a morality of valuing based on love and how valuing based on love repairs traumatic dissonant attunement experiences.

Once on the train from Washington to Philadelphia, I found myself seated next to an African-American man who'd worked for the State Department in India but had quit to run a rehabilitation program for juvenile offenders in the District of Columbia. Most of the youths he worked with were gang members who had committed homicide.

One fourteen-year-old boy in his program had shot and killed an innocent teenager to prove himself to his gang. At the trial, the victim's mother sat impassively silent until the end, when the youth was convicted of the killing. After the verdict was announced, she stood up slowly and stared directly at him and stated, "I'm going to kill you." Then the youth was taken away to serve several years in the juvenile facility.

After the first half year the mother of the slain child went to visit his killer. He had been living on the streets before the killing, and she was the only visitor he'd had. For a time they talked, and when she left she gave him some money for cigarettes. Then she started step by step to visit him more regularly, bringing food and small gifts. Near the end of his three-year sentence she asked him what he would be doing when he got out. He was confused and very uncertain, so she offered to help set him up with a job at a friend's company. Then she inquired about where he would live, and since he had no family to return to, she offered him temporary use of the spare room in her home.

For eight months he lived there, ate her food, and worked at the job. Then one evening she called him into the living room to talk. She sat down opposite him and waited. Then she started, "Do you remember in the courtroom when I said I was going to kill you?" "I sure do," he replied. "I'll never forget that moment."

“Well, I did,” she went on. “I did not want the boy who could kill my son for no reason to remain alive on this earth. I wanted him to die. That’s why I started to visit you and bring you things. That’s why I got you the job and let you live here in my house. That’s how I set about changing you. And that old boy, he’s gone. So now I want to ask you, since my son is gone, and that killer is gone, if you’ll stay here. I’ve got room, and I’d like to adopt you if you let me.” And she became the mother of her son’s killer, the mother he never had. (Kornfield 2000, 235–36)

This mother exemplifies not only a morality of valuing based on love but also the morality of loving one’s enemy, who, in this case, was her son’s killer whom she redeemed by her love. Love is not a soft and fuzzy anything-is-okay process. This mother neither denied the destructive violence of the killer nor demeaned the memory of her son by interfering with the killer’s punishment. Her son’s killer had committed a crime and needed to live in the consequences. She embraced her son’s killer by not attacking him and by standing with him in his pain each time she visited him in the juvenile facility. As she built a relationship with the boy, she was evidently able to let go her animosities toward him and to respect him for who he was, and he was evidently able to trust her enough, despite her threat, to live with her. Once he entered her home, she continued loving him until the old boy was gone. Her threat to kill him can now be understood as the means by which loving one’s enemy eliminates the enemy but not with violence. Instead, she created a relationship in resonant attunement that transformed them both. They could let the past be the past and redirect their creative energies to a fresh future. Their mutual tragedy became a coherent narrative for both of them.

When we live in dissonant attuned consciousness, we live in what we call our *second nature*, a state of split consciousness where our attachments to others are insecure and where we develop strategies, self-images, and behaviors to cope with the distressing experiences of traumatic and unrepaired dissonant attunements. Just as there are different patterns of insecure attachments (Ainsworth, Blehar, Waters, and Wall 1978; Henry and Wang 1998), there are different patterns of second nature. But, in each pattern of second nature our brain contains information that is not integrated with our other knowledge (Shapiro [1995] 2001a; 2001b). It is as though a bunch of neurons form a closed circuit where the original trauma, complete with image, emotion, and negative self-assessment, is prevented from being processed in an integrated way. This closing off is an attempt to diminish the pain of the trauma by keeping the pain out of awareness both within us and between others and us. But this maneuver is inherently deceitful. It creates an illusion that the trauma is repaired. The illusion covers up the very alive overwhelming and unrepaired dissonant attunement. This self-deceit distorts our consciousness by walling off unacceptable parts of our relationships and ourselves. We feel in control of our pain, but the walled-off elements continue to live and determine our

understanding of life. When our brain is not integrated, our mind cannot tell coherent autobiographical narratives about our psychological and social circumstances (Ainsworth, Blehar, Waters, and Wall 1978; Hesse 1999; Hesse and Main 1999; 2000), and our spirit lives in a state of unrepaired dissonant attuned consciousness.

In a state of split consciousness, fear motivates us (Henry and Wang 1998; Wang 1997) and sidetracks us from our primary incentive for good into secondary incentives for good. Secondary incentives for good are those ways we try to do good in order to avoid the feared consequences of not "behaving properly." They are behaviors we develop to stay in relationship even though we are now in a state of split consciousness. Others have called these behaviors defense mechanisms, habitual behaviors, and personality strategies, but we prefer naming them secondary incentives for good to emphasize that human beings, even in states of split consciousness, yearn to be in resonant attunement where goodness prevails. Secondary incentives for good become problematic when we use them excessively and lock ourselves into rigid patterns. Then we no longer invigorate ourselves with the fullness of our emotions that resonant attunement with others brings. Instead, fear constricts us. We strive to deny or ignore painful emotions such as anxiety, shame, helplessness, and despair, which are inevitable in life and essential for informing us that we have fallen out of resonance.

Our worldview when we live in a state of split consciousness, in our second nature, derives from development within unrepaired dissonant attunement where we experience fear, despair, and rage in response to overwhelming and unrepaired frustration of our desire for resonant attunement. Such unrepaired experiences convince us that (1) evil is primary and inevitable—we feel that it exists from the beginning of time/creation; (2) violence and aggression seem inherent in our being; (3) we feel that only by channeling their expression can we manage violence, anger, and aggression; (4) we use stronger violence to eradicate less strong violence. We are convinced that we do not become evil or violent by using violence; we fix things by using violence. Hence, we conclude that violence redeems (Severino and Morrison 1999).

Our morality when we live in a state of split consciousness expresses judging based on the biological experience of the emotion called fear (Henry and Wang 1998; Wang 1997). When we attune in dissonance, our physiology reflects humiliated fury or retaliatory rage, where we willfully judge our behavior and the behavior of others and willfully apply rules to others and ourselves in the mistaken belief that we can eliminate evil by force.

Kathryn Watterson tells the true story of a man who lived in his second nature where he judged "niggers," "Jew boys," and anyone who was not white "Aryan" Christian to be evil and where he attempted to rid the world

of them. The man was Larry Trapp, Grand Dragon of the White Knights of the Ku Klux Klan of Nebraska. Watterson writes:

[I] sat in the middle of a terrorist's mind and experience and wrote about it. . . . Over time, I . . . began to see the terrible isolation and self-loathing that direct such a life. It is filled with anguish, unresolved terrors, grief, rage, depression, isolation and secrecy. Larry Trapp, who was taught the habits of hate when he was a small, abused child, felt confused, humiliated and insignificant. As he grew to be a man, guns quelled some of his fears, and hatred made him feel more powerful. To appear bigger, tougher and meaner, he spoke with his fists, acquired more weapons and built more bombs—externalizing his rage, blaming and diminishing those around him. (Watterson 2001, 9)

The violence that Trapp perpetuated in the world was a product of the violence his father bestowed on him by constantly humiliating him with taunts such as “little queer” and by physically beating him to the point of unconsciousness. His father also taught him how to hate by insisting that “The only good nigger is a dead nigger” and “You can't ever trust a Jap. They're sneaky.” From his father he learned to make fun of differences and to feel secure by acting bigger and tougher than other people. Larry Trapp became a neo-Nazi who perpetuated violence in Nebraska as he tried to rid the world of what he considered evil. Moreover, he was destroying himself. “He had let himself become sucked into the center of a fear so large, so overwhelming and so blinding that he needed to destroy before he was destroyed, kill before he was killed” (Watterson 2001, 122).

Watterson's story also tells how Trapp was transformed back to his first nature. A Jewish cantor, Michael Weisser, and his family refused to be intimidated by Trapp's escalating threats and refused to retaliate. Trapp expected people to fear him and hate him back. One day, on the telephone, his twisted and limited view of the world was shattered by cantor Weisser's response:

“Well, I was thinking you might need a hand with something,” he said. “And I wondered if I could help. I know you're in a wheelchair and I thought maybe I could take you to the grocery store or something.” Trapp was stunned. He couldn't think of anything to say. Michael listened to the silence. Finally, Trapp cleared his throat, and when he spoke, his voice sounded different to Michael Weisser's ears. Michael felt certain that he heard the texture of Larry's voice soften and lose its edge of hatred. “That's okay,” Larry Trapp said. “That's nice of you, but I've got that covered. Thanks anyway.” . . . Before Trapp could hang up, Michael Weisser said, “I'll be in touch.” (Watterson 2001, 144)

Ultimately, Trapp shocked everyone—including himself—by being transformed. When he became so medically ill that he could no longer care for himself, Weisser's family welcomed him into their home. Trapp literally lived, was loved, and died in the Weisser home. Their love for him elicited Trapp's love for them, which transformed the virulent white supremacist into a man who lived his final days in his first nature.

## SUMMARY

We are our biology and our morality, both of which reflect the constant dynamic interaction of all aspects of our human personhood (biological, psychological, social, and spiritual aspects) in mutual interaction with other human beings and all of creation. Our challenge is to live life as wholly as possible—to see both the resonance and the dissonance in our personhood and in our world without bitterness but with compassion. Compassion enables us to take responsibility for what has been done to us both intentionally and unintentionally, to repair our wounds caused by dissonant attunement experiences, and to live a morality of love that values our human nature and gives others permission to do the same.

## NOTE

The authors' ideas were presented in preliminary form at the conference "Works of Love: Scientific and Religious Perspectives on Altruism," hosted by the Institute for Research on Unlimited Love and the Metanexus Institute, 31 May–5 June 2003. Portions of this essay were presented as a workshop on attuned consciousness during a course on Spirituality and Healing in Medicine directed by Herbert Benson, Harvard Medical School, Boston, Massachusetts, 15 December 2001.

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