**The Neurobiology of Moral Sensitivity: Evolution and Parenting**

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Abstract

Many capacities foundational to morality are established with early care that matches up with humanity’s evolved needs. Parents and other caregivers may have the greatest impact on moral development in early life. Using small-band hunter-gatherers as a baseline for human society and childrearing, we can see humanity’s evolved developmental niche (EDN) for young children which fosters wellbeing, moral capacities and a common human nature. The EDN fosters empathic effectivity roots and a communal autonomy space that lead to moral mindsets of engagement and communal imagination. When the EDN is not provided (undercare), empathy is undermined and autonomy uncontrolled by empathy. Attractive moral mindsets are self-protective (Safety, Vicious or Detached Imagination). Cultures and individuals can revamp their moral capacities with immersion in environments and activities that foster intuitions for engagement and communal imagination.

We are learning from integrative studies, including developmental neuroscience, that everyday morality relies on the nature of one’s embodiment—how well the body/brain works in social situations. Moral learning, like all learning, is biosocial—we co-construct ourselves, including our biological and genetic functions, within relationships (Ingold, 2013). Morality, including components of moral sensitivity, is initially bottom-up learning from relational immersion in early life (Kochanska, 2002). Even our imaginations are rooted in biology and are shaped by social experience (Emde et al., 1991; Lakoff & Johnson, 1999). In fact in early life, capacities for reason and emotion develop together with implicit social procedural knowledge that underlies conscious thought (Greenspan & Shanker, 2004; Narvaez, 2014). In supportive environments with mutually-responsive caregiver relations, true (wise) rationality grows side by side with well-trained emotions. Indeed, when reason is not guided by well-educated emotions, it can be stupid and/or destructive (Damasio. 1999; Narvaez, 2014).

In this chapter, I propose that whereas evolution has set us up for a “moral sense” (Darwin, 1871/1981), early experience, in very deep neurobiological ways, influences what *type* of moral sense develops. Although humans evolved to be prepared for communal morality we are realizing now that its roots must be cultivated carefully during sensitive periods such as the first few years of life. Caregiving environments that match up with human evolved needs shape dispositions for humanity’s fullest moral capacities, what I call the ethics of engagement and communal imagination. But these prepared inheritances appear to be epigenetic and plastically dependent on caregiving practices that evolved to match the maturational schedule of the baby. When evolved caregiving practices are violated, it influences the trajectory of moral development, affecting our moral intuitions, capacities for deliberation and responsiveness to situations. We touch on all these topics. But first, we need a baseline.

**Baselines for Early Human Development**

Shifting baselines is a common problem for scholars across the sciences. A scholar’s assumptions about the nature of the world she studies are often dominated by what she herself has experienced. For example, in oceanography, where the notion of “shifting baselines” arose, scientists assumed that the amount of animal life in the sea during their lifetimes was an appropriate baseline to use for gauging normality and change. But this habit made them miss the drastic decreases in sea life that otherwise are apprehended when examining oceans over generations of time (Pauly, 1995). For example, in the USA, air is cleaner, compared to 1960; forest cover is better compared to 1900; but neither is better compared to 1500. The notion of “shifting baselines” crosses over into other areas of scholarship beyond the sciences where scholars generalize what is salient to them. For example, Thomas Hobbes (1668), immersed in a civil war, generalized these violent conditions to humanity generally.[[1]](#footnote-2) He used the salience of callous violence and greed for his “the state of nature”—the nature of ungoverned humans—and thereby argued for the necessity of a social contract to control human nature. Much of the Western world still subscribes to his generalizations of humans as selfish and competitive when they take up neo-Darwinian and Hobbesian evolutionary perspectives, both of which emphasize ego-driven human nature controlled by selfish genes (Dawkins, 2006; Midgley 2010; Narvaez, 2013; Sahlins, 2008). But Hobbes was quite wrong about how humans behaved before societal structures evolved and quite wrong about Nature in general which is deeply cooperative (Margulis, 1998; Narvaez, 2014). We discuss this further below.

When we apply the notion of shifting baselines to areas of concern to moral development, we must find an appropriate baseline for human normality. To select baselines for human morality and human nature, one must understand humanity’s evolutionary story. First, we must recall that we are mammals, social mammals, and we have not evolved away from being so. One feature of every mammal’s life is the early nest: an evolved set of nurturing practices for its young. Nesting practices match up with the maturational schedule and basic needs of the offspring to optimize development. These practices represent an extra-genetic adaptation based on what worked for our ancestors to outcompete rivals genetically (Gottlieb, 1997). More than 30 million years ago, the social mammals emerged with intensive parenting practices, which we examine below. Over the course of human evolution these practices intensified further due to the fact that the human infant is the most helpless at birth (born 9-18 months early compared to other animals), with the longest maturational course of any animal (Trevathan, 2011).

Second, humans have a set of propensities built in at birth but who have much yet to be shaped in terms of personality and capacities. Humans are dynamic systems whose early experiences influence trajectories for the life ahead. Much of brain and body system development occurs after birth through biosocial construction. That is, caregivers actually co-construct the child’s brain and body systems during their rapid development after birth, influencing basic neurophysiological functioning for a lifetime (Schore, 2003a, 2003b). At full-term birth, infants have 25% of adult brain size that develops to 80% by age three. Most of what develops, in response to experience, are synapses, the interconnections and networks among neurons.

Third, children have basic evolved needs that include animal needs for nourishment and warmth, mammalian needs for affection and play, and human needs for belonging and meaning making (Narvaez, 2014). If inherited basic needs are not met, then the developmental system for an organism, which evolved over countless generations, is thwarted. Instead of a species-*typical* outcome, the result will be species-*atypical*. So the human nest is particularly impactful. I call it the Evolved Developmental Niche.

**The Human Evolved Developmental Niche**

Anthropologists have documented the human Evolved Developmental Niche (EDN) among small-band hunter-gatherers (SBHG) (Hewlett & Lamb, 2005; Konner, 2005, 2010). SBHG are representative of the type of society in which the human genus spent 99% of its existence (Konner, 2010). The human EDN includes soothing perinatal experiences; extensive (years) of infant-initiated breastfeeding; nearly constant touch or caregiver presence in the first years of life; responsiveness from adults so the infant does not get distressed; free play in nature with multi-aged playmates; a positive social climate; multiple adult caregivers; and positive social support. All these practices have been documented to have long term health effects (for reviews, see Narvaez, Panksepp, Schore & Gleason, 2013).

The EDN shapes key *mammalian* inheritances, such as emotion systems that guide thinking and allow for quick intuitive analysis of a situation. But these must be well-educated, by responsive caregivers and appropriate environments. Caregiver practices tailor the neurobiology of all brain functioning (and much of physiological functioning). That is, the way caregivers treat a baby co-develop the systems of the body, including immunity, neurotransmitters and endocrine systems (Narvaez, 2014). In fact, because the child cannot self-regulate at birth, caregivers act as external regulators (Montagu, 1957; Schore, 1996). Here are a few more details.

**Soothing prenatal experiences.** Soothing perinatal experiences means no medicalization, no separation of mother and newborn, no induced pain and no interference with timing. Medicalized childbirth is documented to interfere with mother-child bonding, breastfeeding success, and child self-regulation.[[2]](#footnote-3)

**Breastfeeding.** Infants are nursed frequently (2-3 times/hour initially). Nursing lasts for 2-5 years, with an average weaning age of age 4. Breast milk provides thousands of ingredients to establish a healthy brain and body, including systems underlying intelligence and immunity, the latter reaching adult capacity by about age 6.[[3]](#footnote-4)

**Touch**. Children in the first years of life are held or kept near others constantly. There is little forced separation from a set of responsive caregivers. Touch keeps the baby calm and growing, fostering good functioning of important brain structures such as oxytocin receptors.[[4]](#footnote-5)

**Responsivity**. Caregivers respond promptly to the needs of the child, resulting in little distress. Responsiveness properly sets up multiple systems, including tuning up the vagus nerve which is critical for well-functioning digestion, cardiac, respiratory, stress, immune and emotion systems (and for compassion as well).[[5]](#footnote-6)

**Play**. Babies are ready to play from birth and to create play routines with caregivers. Children’s free play, especially rough-and-tumble play, leads to better outcomes including mental health and social skills (Pellis & Pellis, 2009; Reddy, 2008; Trevarthen, 2005).

**Social climate, alloparents and social support**. Mother-child dyads experienced high social embeddedness, which keeps positive emotions active. In the nomadic context, young children are frequently cared for by close community members other than mothers (fathers and grandmothers, in particular). Maternal social support is linked to greater maternal responsiveness. Shared nursing also occurs, which is related to greater social openness (Hrdy, 2009; Morelli et al., 2014).

All these components of a child’s early life contribute to a species-typical trajectory whereas not providing them represents what I call undercare, leading to species-atypical outcomes. Since we hardly understand the complex influences of various systems on development, and since every individual develops differently and at her own pace, it is hard to know what system might be underdeveloped at a particular timepoint of undercare. If undercare occurs too intensely, for too long, or during a critical period, a child may develop one or more poorly functioning systems, leading to deterioration in health, intelligence, or sociability, and this may take years to manifest itself. Capacities that underlie morality are developed at this time. Parameters for self-regulation but also for all basic emotion systems are being shaped. Parents and other caregivers in the social environment may also be shaping the foundations for morality. But how do we know that? We need another baseline.

**Human Morality**

We often hear in popular media that humans are selfish and aggressive by nature (e.g., Pinker, 2011). But the baselines used for these assumptions are either murky, inadequate or wrong. Murky because the data are poorly described; inadequate because only one type of violence is examined; wrong because misleading data are incorrectly grouped together (for reviews, see Ferguson, 2013; Fry, 2006, 2013). Furthermore, looking at humans today as a measure of normality is like looking at oceans today—both are decimated by reckless human behavior which has cascaded over generations.

To find a baseline for optimal morality, we return to our 99%, small-band hunter-gatherer societies (SBHG). Prior to the spread of agriculture, they were universal and even after, SBHG continued existing side by side with settled agricultural communities, indicating that it is a stable social structure (Ingold, 1999). Because SBHG provide the EDN for children, they offer a window into evolved human nature. Anthropologists document a common culture and personality among adults of generosity, sharing, and peaceableness (Fry, 2006; Ingold, 1999). All over the world, SBHG display similar range of social, open, noncoercive personalities. They do not exhibit anxiety or aggressiveness as a matter of course. Although they are fiercely egalitarian, they maintain this with teasing to prevent egos from getting too large and mean (Narvaez, 2013). Overall, from accounts of outsiders who encounter and study them, their perception and cognitive systems seem far superior.[[6]](#footnote-7) Based on the evidence from small-band hunter-gatherer studies and reports, I propose that the EDN provides a similar “cultural commons” for human nature. They demonstrate human moral inheritances that are apparent under evolved conditions. Let’s examine some aspects of their moral personalities and how they are fostered.

**Empathic Effectivity Roots**

How does morality develop? Caregivers who follow the EDN promote pleasurable social experience. Extensive joyful interaction promotes brain development on all levels (neurochemical, circuitry, integration; Schore, 2003a). Daniel Stern (1993, 1999) described the development of intersubjectivity as the delicate matchings of expression between a mother and her infant, or as their attunement of *vitality contours*, the “essential musicality of intuitive parenting communication,” signaled through modulations of the intensity of movement (Papousek, 1996, p. 65). This rich, positive social experience results in capacities for intersubjectivity (self to self communion), mutual responsiveness and reciprocity, as well as dyadic meaning making and repair (Tronick & Beeghly, 2011). Human infants, like other apes, develop strong attachments to caregivers. Attachment involves procedural social memory for that relationship that is applied to other social relationships. In fact, the neurobiology of attachment may ground lifetime brain function as well as social and moral behavior (Gross, 2007). Under evolved conditions, the caregiver demonstrates a caregiving attachment system that aligns with the infant’s attachment system, providing a mechanism by which the rudimentary nervous system of the infant can be co-constructed by the caregiver. As an “external psychobiological regulator,” the caregiver helps shift external into internal regulation, increasing the complexity of maturing brain systems as they learn to adaptively regulate interactions between the baby’s self and the social environment (Schore, 2001a, p. 202).

As he learns to successfully engage in and repair social relations, the child builds a sense of social effectiveness or effectivity. Effectivity includes both the sense of personal effectiveness (self-efficacy) and the expertise to successfully carry out the action (Aristotle’s ‘power’ of virtue; Haldane, 2014). Thus in early life, infants are developing their proto-moral expertise. Caregiving consistent with the EDN provides infants with the following experiences,

**Emotional presence**. Emotional presence refers to the capacity to be fully emotionally present (and not preoccupied with things outside the moment). It is a nonjudgmental, nonevaluative sense of connection to the Other. When the baby indicates open expectation of social connection, the caregiver mirrors the child and there is a reciprocal connection promoting “limbic resonance” (T. Lewis et al, 2000).[[7]](#footnote-8)

**Reverence**. Reverent hospitality is a way of being that tunes into the unique presence of the Other, an approach that allows the relationship to develop as it will, without “controlling” it. For example, the caregiver is not intrusive, picking up the baby’s signals for a need to rest from social interaction.

**Synchrony and intersubjectivity**. Intersubjective synchrony refers to the ongoing negotiation of purpose, interest and companionship within the relationship by means of an interpersonal dance which starts from before birth (Trevarthen, 2001, 2005). Nervous systems coordinate and synchronize themselves, mirroring one another’s inner states (Lewis, Amini, & Lannon, 2000).

**Empathy**. Empathy represents the ability to *feel with* another and is distinguished from sympathy (concern for the other) and personal distress (which must be regulated for ongoing empathy or empathic action) (Eisenberg, 2000). Babies demonstrate mirroring capacities from the first days of life (i.e., crying when another baby cries) but they mostly learn how to be empathic from caregivers’ empathy for them.

**Perspective taking**. Perspective taking is the cognitive aspect of empathy, imagining another’s viewpoint and understanding the motivations behind the behavior. In one view, caregiver affect-mirroring that is a modified, less intense reflection of the child’s feeling (not the mother’s) allows the child to start to develop representations of mental states (mentalizing). Mentalizing involves combining instinctive drives with mental representations in a manner that reflects both constancy and fluidity (Fonagy, Gergely, Jurist & Target, 2004). In another view that credits much more to the child’s innate capacities, mental representations are unnecessary because every drive involves simulated imagination (Hesslow, 2011; Trevarthen & Aitken, 2003). Infants show these capacities, playing jokes on their parents by 9 months of age (Reddy, 2008).

**Playfulness**. Play is fundamental to mammalian behavior and development, enhancing physiological, neurological and social development. Young mammals play whenever the opportunity arises. Playfulness is fragile, in that it is absent when there is fear, anger or pain and so can be a good measure of the quality or state of a relationship (Panksepp & Biven, 2012). Children are ready to play from birth (Trevarthen, 2005), even though they have limited physical control.

The social effectiveness or effectivity fostered in the child by EDN-consistent caregiving facilitates the development of what I call *empathic effectivity roots*. All these experiences contribute to budding empathic effectivity roots which are involved in procedural emotional intelligence. These roots are established implicitly by the way that the infant is treated in early life when neuronal networks and systems are established. The account of empathic effectivity roots matches up with Polanyi’s (1958) notion of tacit knowledge, convictions we live with and apply without awareness or explanation. Our moral convictions are part of our character:

Most of the convictions that charge us morally are like the air we breathe—we never notice them—because they form us not to describe the world in certain ways and not to make certain matters subject to decision. Thus we assume that it is wrong to kill children without good reason . . . These are not matters that we need to articulate or decide about; their force lies rather in their not being subject to decision. (Hauerwas, 1977, pp. 18–21, as cited in P. A. Lewis, 2010, pp. 89–90)

Fundamental for the social life, self-regulation is a biosocial construction and is critical for both physiological and social functioning.[[8]](#footnote-9) It involves self-regulatory systems that keep the physiology running smoothly. T. Lewis and colleagues’ (2000) point out that the mammalian nervous system cannot self-assemble but requires the caregiver’s “hidden” regulation of infant development across sensory systems (e.g., olfactory, tactile). Indeed, mammalian maternal touch can lower an infant’s heart rate during a distressing experience, which trains the infant’s systems for adaptive responding to stress (Calkins & Hill, 2007).

 Emotion regulation is necessary for social relations. The core of human evolved morality involves the ability to regulate and employ emotions well—that is, capacities for emotional intelligence, such as the ability to recognize, regulate, and express them effectively (Brackett & Mayer, 2003). Emotion regulation develops through experiences with caregiver intersubjective attunement and affect-mirroring (using physical, vocal, and facial expressions to reflect and respond to the child’s feelings in a reassuring manner).

When self-regulatory and emotion systems underlying prosociality are working as designed, it indicates that early experience went well. Good early care leads to capacities for ‘social fittedness,’ which Aristotle included in his list of virtues (Nussbaum, 1988) and has been identified as the early beginnings for psychological morality (Emde et al., 1991). When a young child experiences ongoing intersubjectivity and her needs are met, cooperation with others becomes an intuitive baseline for life, based on the early learning of an intuitive dance in relationships with others, maintaining a broad “circle of attachments”. Relationships are guided by affection and displays and evaluations of shared purposes and interests. Emotions that guide “attachment for companionship” are innate and test possibilities and values of shared experience.

The social procedural knowledge learned is used for the rest of life. All other social skills are built on this knowledge.

**Autonomy Space**

 There is a second aspect that develops partially in early life: the establishment of *autonomy space*, a critical aspect of moral sensitivity. During development the child experiences several autonomy surges, the first in early life (known as “terrible twos” in North America but is not evident in every culture) and another in adolescence. IN SBHG, autonomy surges are shaped by prosocial guidance from adults and older children in the community. So for example, if the toddler runs at another with a stick, the others laugh and make a game of it, rather than scolding or punishing (understanding that the young child ‘is not a human yet’; Sahlins, 2008). There is no coercion in the group, even of children, unless someone hurts another. In this society, an individual’s autonomy space is curbed by both empathic effectivity roots and the gentle guidance or reminders of them by older community members. They develop a *communal* autonomy space.

In contrast, within cultures where the EDN is frayed or absent, the child may not be surrounded by a close, prosocial community, or, the child may be (mis)guided by vicious adults. In these cases, the child will be steered towards maintaining aggressive selfishness through punishment, disrespect or encouragement, growing an egocentric autonomy space. Instead of curtailing energies to account for the needs of others, self-aggrandizing energies will be let loose on the world, without sensitivity to their destructive power towards relationships, peoples or species. The Western world has unleashed many of these misbegotten people on the rest of the world (e.g., Turner, 1994).

 Empathic effectivity roots are representative of one’s orientation to *communion* while the autonomy space can be viewed as one’s parameters for *agency*. Communion and agency are often perceived to be at odds in Western societies (Bakan, 1985). However, if we examine the SBHG societies, these two aspects of moral being are not opposed but integrated (Ingold, 1999). Among SBHG, band members are highly autonomous, with no acceptance of coercion in relationships even toward children. But they are also highly communal, harboring a sense of responsible relation to the group. The individual’s life course is movement *with* others (including non-humans), not against them.

The Western world has generally failed to develop deep empathic roots and failed to curb autonomy. A lack of the EDN mishapes human nature towards ego-aggrandizement and general distrust. For example, unlike the indigenous peoples that initially greeted the Europeans with generosity and care, European explorers and settlers had limited empathy for and sensitivity to the humans and other life forms they encountered (Martin, 1999; Sanders, 2012). With a worldview that distrusted Nature and wildness, with reckless, uncurtailed autonomy, they destroyed the abundant diversity of the Americas (Sale, 1990; Stannard, 1992; Turner, 1994).

**Moral Mindsets that the EDN Builds**

We can see two moral inheritances brought about by the EDN, emerging from empathic effectivity roots and a communal autonomy space. These are moral mindsets from which one takes action. One is what I call the Engagement Ethic, built on the experiences mention above. An active engagement ethic involves relational commitment in the present moment. Engagement has much to do with capacities to “love the one you’re with.” Love is ‘being-with’ the Other, not distancing oneself emotionally or coercively interacting. It means being relationally attuned, in an egalitarian manner. There is a sense of fellow feeling that encompasses the same concern for the Other as for self in terms of justice, care, mercy, and reciprocity. Justice is reciprocal, and reciprocity is noncalculating. Positive social emotions are kept active, including empathy/sympathy, generosity, and charity.

Though humans are evolutionarily prepared for the engagement ethic, it is best cultivated by the EDN (though to some degree it can be cultivated in adulthood through loving relationships). That is, how much one habitually resides in an engagement ethic may be dependent on caregivers.[[9]](#footnote-10) Moral sensitivity relies on the embodied capacities thus far described. It entails our ability to perceive ‘what is there’ (and not impose our stress-reactivity onto our perceptions). It requires us to have enough self-control to not get too distressed in face of another’s need or closeness. It entails being-with the Other, co-constructing the moment together in a playful dance.

A second ethical mindset is the capacity to deliberate and imagine alternate possibilities within a communal framework. Imagination capacities generally rely on later-evolved brain areas such as the prefrontal cortex that allow for stepping outside the present moment to consider alternative possibilities, which may be one of humanity’s greatest gifts. Good early care during the early sensitive period facilitates strong linkages from executive functions in the prefrontal cortex to self-preservational systems in evolutionarily older parts of the brain so that the individual can control more primitive systems.

*Communal* imagination is a species-typical heritage found among adult SBHG but is also cultivated among settled indigenous groups such as American Indians (Kimmerer, 2013). Communal Imagination uses abstracting capabilities, extending the engagement ethic. It too builds on the foundations of empathic effectivity roots and communal autonomy space, taking them one step further with their integration into narratives, principles, generalized worldview, and the self-construction of corresponding daily habits. Communal imagination demonstrates flexible and adaptive responsiveness. These are guided by well-functioning executive functions, including self-regulatory systems supervised by the prefrontal cortex. Such capacities are highly influenced by early life experience when networks of self-control are developing. Here are three aspects of Communal Imagination.

**Ethic of Love**. An ethic of love is built on the engagement components of presence, reverence and synchrony. Imagination adds an identity or principle component of intentionally maintaining such a way of being in social relations.

**Egalitarian respect**. Egalitarian respect emerges from engagement components of intersubjectivity, perspective taking and a small I-ego. One takes to heart the welfare of the Other as fully as one’s own.

 **Habituated Sympathetic Action**. Sympathetic action is built on engagement capacities for empathy, perspective taking and social effectivity. We can distinguish empathy and sympathy more easily in adults because of the complex perspective-taking requirements that children have not yet developed. There is an understanding that one must build habits for sympathetic action (e.g., tithing) as feeling may sometimes not guide one in the right direction.

What evidence is there that early experience influences *moral* development? Grazyna Kochanska has done extensive research demonstrating that mutually-responsive caregiving leads to children who have greater empathy, conscience and prosocial capacities. My colleagues and I have found that additional characteristics of the EDN underpin sociomoral capacities and matter for young children’s (2-5 year olds) moral development (Narvaez, Gleason et al., 2013; Narvaez, Wang, et al., 2013). To put it in a nutshell, EDN practices, even after controlling for responsiveness, were related to more of the good stuff: empathy, conscience, self-control, cooperation, intelligence and less of the bad stuff: depression and aggression.

**Missing the Baselines in Early Life**

When a human is not provided with the evolved developmental niche, it undermines the process of becoming human. Let’s examine, for example, what happens when a baby is physically isolated or left to cry, as Henry and Wang (1998) describe. The stress response moves from initial alarm to panic as the sympathetic system is mobilized. Anger rages. Perhaps the caregiver shows up at this point. When this occurs routinely, trust has been undermined and a rageful personality fostered because anger worked to get needs met. However, when help is not forthcoming even with raging, the parasympathetic system is mobilized to preserve energy and life. When this system is activated, the baby quiets down into despair. The caregiver showing up after this has promoted distrust of relationships and detachment from emotion—emotions don’t work anyway, and an avoidant insecure attachment. If the caregiver is inconsistent, unreliably present, the baby resides in anxiety, which becomes chronic and is apparent in an anxious insecure attachment. In any case, insecurity is promoted and the child learns that people are not really to be trusted and that a sense of security must come from something else (e.g., achievement, dominance, hoarding resources).

When a child experiences regular stress, primitive emotional survival systems (fight-flight-freeze-faint) are frequently activated. When there is a pattern of this type of undercare, the child’s stress response is sensitized and can be faulty for life. The stress response physiologically takes over attention and energy (Sapolsky, 2004). Too much unmitigated distress in early life can leave one’s hypothalamic-pituitary-adrenal-gland axis (HPA) sensitized, resulting in a system that never settles down (Lupien et al. 2006). Even if care is available but emotionally detached and “custodial,” it can lead to a heightened stress response (Gunnar, Larson, Hertsgaard, Harris, & Broderson, 1992). Moreover, if there is a dearth of affection, genes for controlling anxiety may never express themselves properly (Meaney, 2010). In these cases, the individual may become stress- or threat-reactive. Threats will be frequently perceived, provoking the strong stress response. This takes energy away from growing according to the maturational schedule. Throughout these undercare experiences, growth-inhibiting chemicals are released.

Without appropriate care in early life, mammals can grow up with erratic biological systems that are easily thrown into disarray when unpredictable things happen. Lacking limbic regulation, mammals can slip toward physiological chaos. Isolated monkeys may survive isolation from caregivers, but not very well. Their discoordinated systems prevent them from socializing (and reproducing). Abused and neglected children develop in disorganized ways similar to those of isolated monkeys. In both cases, “interlocking neural barriers to violence do not self-assemble” resulting in “a limbically-damaged” being that is “deadly”; severe neglect results in “a functionally reptilian organism armed with the cunning of the neocortical brain” (T. Lewis et al., 2000, p. 218).

Even in non-extreme cases, a poor early life leads to the enhancement of the primitive survival systems because the controlling linkages from the prefrontal cortex were not developed properly. The orbitofrontal system, whose function is developing in early life, connects directly to the autonomic system and, when properly functioning, regulates its two subsystems (sympathetic and parasympathetic). However, when the orbitofrontal system is underdeveloped, both the sympathetic and parasympathetic can misperform (Schore, 2003a). The effects are most apparent in social relations—people have difficulty getting along as equal companions and move instead to disassociation (emotional detachment) or domination and control of others. Children who receive little warmth and responsivity from caregivers show more depression, make fewer social bids, and tend to have insecure or disorganized attachment in comparison to those with responsive caregivers (Karrass & Walden, 2005; Spangler & Grossman, 1993). Behavior regulation (e.g., impulse control), emotion regulation (e.g., anger management), and the development of attachment to the parent typically go hand in hand (Egeland, 1983; Sroufe, 1996). With undercare, defensive (survival) systems are more easily activated and form a greater part of the personality (Perry et al., 1995).

One outcome from poor early care is that the right hemisphere does not receive the experience it expects during the period, when it is developing rapidly. The right hemisphere has many systems that govern self-regulation for the rest of life. For example, the vagus nerve (10th cranial nerve) whose function is related to all body systems and linked to compassionate morality is largely controlled by the right hemisphere (Porges, 2011). Warm, responsive care that teaches the baby to rapidly calm down or keep calm while the nerve function is being established, leads to better vagal nerve functioning. A well-functioning body and brain, which supports self-regulatory processes on multiple levels, create the building blocks for a host of capacities that govern our lives.

How much damage does unloving care in early life cause? We can all tell the difference between a child who is well loved and one who is not. Loving care provides extensive experiences of intersubjectivity and other types of experiences noted above. These are critical for establishing conscious and unconscious capacities for relational communication and connection. Experiential deficits may damage capacities for empathizing and sympathizing. Establishing trust (or mistrust) is a primary outcome of the first months of life (Erikson, 1950). After that, it is hard to revise the procedural knowledge learned implicitly upon which the social life depends. Distrust becomes an everyday filter. What does distrust look like? Young offers a summary: “The expectation that others will hurt, abuse, humiliate, cheat, lie, manipulate, or take advantage” (Young, Klosko & Weisshar, 2006, p. 211). Such distrust can make one habitually suspicious of others. Distrust sets up a self-protective orientation to the moral life.

**Moral Development Gone Awry**

If a child does not receive intensive social support during sensitive periods when brain and body systems are established, the foundations for health and wellbeing, for social and moral life are rent, torn asunder, with varying degrees of misalignment dependent on the timing, duration and intensity of toxic early stress. The child develops a stress-reactive physiology, sensitized to personal distress, with relative inflexibility. Undermined are higher order thinking and capacities for intimacy, which undermine empathic response and communal imagination (Narvaez, 2014). When things go wrong in early life, brain and body systems develop suboptimally; and the submoral components previously described are misaligned. Systems governing sociality are misformed.

When the EDN is inadequate, innate survival systems are sensitized to protect the child from harm. The personality may grow to rely on survival systems that are easily activated with perceived threat. When there are impaired capacities to self-soothe or self-regulate, the stress response will persist. Self-protective filters can be evoked so quickly that the person is not aware of the narrowed perception of the social landscape. In these cases, moral decisions and actions are taken with self-protection foremost in mind—what I call a Safety Ethic. A Safety Ethic can become the default system for social life.

Safety ethics rely on the survival systems present at birth: mammalian emotions systems of fear, rage and panic.[[10]](#footnote-11) The stress response is related to the functioning of these systems so when the stress response becomes habitual, these primitive systems will dominate personality (as a result of the right hemisphere and prefrontal controls being underdeveloped). The primitive systems are rigid and so the individual will demonstrate inflexibility and a reliance on routines and precedent. With a safety ethic mindset, the individual compulsively moves to a hierarchical moral relation (one-up or one-down) for self-protection, often based in procedural memory from early life (e.g., power struggles to get needs met).

Besides a general safety orientation to the social life that seeks to stay safely in control, there are two subtypes of basic safety ethic that can operate ‘in the moment.’ One is anger-based and aggressive (Combative Safety) where one feels enough strength and power to take action against the threat (one-up). In fact, with a dispositional combative safety mindset one feels less than adequate unless one is dominant; hence, the bulldoggedness of some personalities in the face of challenge. This externalizing, pushing away of others with hostility or aggression, can become habitual in social situations as a learned form of self-regulation. The other safety subtype is fear-based appeasement (Compliant Safety). In a dissociated state (detachment from the immediate situation), the individual is cut off from external and internal stimuli. In this case one feels paralyzed or too weak to take action and so withdraws physically and/or emotionally. Energy is internalized towards anxiety and depression. This, too, can become habitual in social situations as a way to cope in a hostile environment. How much one resorts to using these innate instincts for self-protection and rigidity in moral decisions and actions is initially determined during the preverbal years of life. They have lasting effects, affecting imaginations and cognitive sensitivity to others.[[11]](#footnote-12)

Imagination can take different forms and which forms become habitual may reflect early experience as well (Schore, 2013). As noted above, communal imagination is our heritage, formed in appropriate environments. But imagination can partner with safety concerns as well. When early needs are thwarted, imagination may develop in safety directions. When stress response is activated from perceived threat, which becomes habitual in the ill formed, the imagination can be hijacked for self-aggrandizement or revenge. Angry and aggressive emotions underlie combative morality which, when enhanced with imagination capacities, fuel vicious imagination and social aggression. With *Vicious Imagination,* anxiety is directed toward grasping or controlling the Other in an “us-versus-them” orientation. Ideologies that tout the superiority of one’s group are attractive (safety nests), a characteristic of ethnocentric monoculturalism (Sue, Bingham, Porche-Burke, & Vasquez, 1999). Narratives of self or group superiority maintain the beliefs and insensitive behavior. Because of heightened fear and panic (overt or covert), the individual will demonstrate intolerance of perceived outgroup members and fear of contamination, unable to live in the present moment with the Other, whom they quickly categorize. (These are signs of poor right-hemisphere function.)

 The other form of safety-based imagination is emotionally-detached and dissociated. Emotional distancing and fearful orientation underlies vacant morality which, when enhanced with imagination capacities, fuels detached imagination, psychological withdrawal from relation. *Detached Imagination* is morally disengaged (Bandura, 1999), distanced from affiliative emotions and consequences of actions. Detached Imagination is encouraged in emotionally-desiccated environments that perhaps offer some support but not enough to promote empathy and social intimacy. Instead they support narcissism and psychological processes that disengage morality from conduct, such as moral egoism which has gained traction since Hobbes. Many Western cultural narratives fuel detached imagination. Moral disengagement, something expected in Western science, economics and business, leads to great harm from taking actions without concern for long-term consequences, lacking empathic effectivity roots and acting outside of a communal autonomy space.

Inegalitarianism is at the heart of Safety-based imagination, usually placing one set of humans above another. Safety-based imagination is unable to be present and perceive what is there. Prior experience is imposed on the present. It is detached from present reality and uses categorizations and stereotyping as a replacement for flexible adaptation. Categorizing others based on a worldview or ideology engenders miscalculations, illusions that increase hostility and greater chance of conflict (Beck, 1999; Staub, 1989). Warfare is often the result of cognitive biases and beliefs that limit perception and understanding of difference (Brewer & Miller, 1996). Cultural beliefs influence one’s chronic mindset. Dangerous ideas like distrust, superiority, helplessness, injustice, and vulnerability increase aggression (Eidelson & Eidelson, 2003). Detached and vicious imaginations can lead to war and environmental degradation but also to impositional altruism, imposing one’s will on others ‘for their own good.’

Using our baseline, these types of imagination are not evident among the SBHG. Among SBHG there is no ingroup/outgroup orientation of any strength, unless they were mistreated by outsiders. Instead, they are known to be fiercely egalitarian with fluid group boundaries, treating non-group members without fear or aggression (Boehm, 1999; Fry, 2006). This may be due in part to the companionship caregiving that treats babies and children as equally worthy as adults and a trusting attitudes towards Nature. In these circumstances, egalitarianism and trust gets deeply wired into early procedural memory.

Behaviors that emerge from the safety ethic are those that fit with the received view of human nature, that humans are violent, self-interested, and need hierarchies to behave. These views may ring true because of how a person was raised—under conditions of undercare and increased stress reactivity. Selfish behaviors will be expected but then promoted by the behavior of those who believe they are normal (e.g., parents). We see these behaviors rampant in today’s world. But the received view of human nature may be veridical only under conditions where human needs are thwarted.

**Adult Ethics and the Evolved Developmental Niche**

The contention here is that early experience influences not only health and wellbeing but moral capacities and moral orientation. In my lab we have abundant evidence to support these conclusions (Narvaez, 2013b; Narvaez, Brooks & Mattan, 2011; Narvaez & Hardy, 2014). For example, we have developed short questionnaires to measure how much a person is oriented to a particular ethic in general. Each set of terms is presented separately. The terms for the general safety ethic are: controlled, tough, unyielding, competitive. For engagement the terms are caring, compassionate, merciful, cooperative. We find that Engagement is correlated with secure attachment, empathy, and integrity. A general Safety orientation is correlated with insecure attachment, distrust and lack of integrity.

We have also developed a measure to examine the relation between retrospectively-reported EDN experience on adult health and moral functioning. We expected that EDN-consistent care in childhood would be related to all positive outcomes. In a study of over 400 adults EDN was correlated with ethical orientation (Narvaez, Lawrence, Cheng, & Wang, 2014). The EDN items ask about childhood experience in terms of breastfeeding length, responsivity (combination of happiness, support, responsiveness to needs), touch (affection, corporal punishment), play (adult-organized, free inside, free outside), and social support (family togetherness). We used measures of *externalizing safety ethic orientation (combative)* and *internalizing safety ethic (compliant)*. We found significant effects for ethical orientations (correlated at *p* <.05). A *combative ethical orientation* was related to less family togetherness and less play inside and outside. A *compliant ethical orientation* was related to less family togetherness, less affection, less organized play and less free play inside and out. On the positive side, an *engagement ethical orientation* was related to having experienced in childhood longer breastfeeding, greater responsivity, greater affectionate touch, less corporal punishment, more free play inside and outside, and greater family togetherness. *Imagination ethical orientation* was related to longer breastfeeding, greater responsivity, less corporal punishment and greater inside and outside play, and greater family togetherness. The lack of family social support and play were related to both safety ethical orientations with affection also mattering for compliant orientation. Engagement and imagination were correlated with all EDN variables except that only engagement related to affectionate touch. In addition, anxiety and depression were positively correlated with compliant and combative ethics and negatively correlated with engagement and imagination. As expected, poor mental health is related to more self-concerned moral orientations. We performed a mediation analysis and found the pathway of relations for Compliant morality (Wallflower Ethic). Lack of support in early life predicted lack of secure attachment which predicted poor mental health which predicted personal distress which predicted compliant morality.

**Shifting moral mindsets**

Our moral mindset—whether Safety, Engagement, or Imagination—may frequently change. Our neurobiology is a constant, but fluctuating aspect of our lives. As we act on the world and react to situations we attempt to maintain homeostasis on a physiological and social level. This is what animals do. Situations influence our neurobiology, affecting perception and affordances (action possibilities) and thereby our moral landscape. Our mindsets are constantly shifting as we move through the world, changing our attention, goals, strategies, and so on.

Our multiple ethics can shift moment-to-moment, susceptible to environmental cues such as threat, mood and affect, influencing perception, focus, goals, affordances and attractive rhetoric. Not only do the three ethics interact, they each have a dispositional aspect (“trait-like”), based on developmental experiences and practice. Situations can influence one’s sense of superiority. If on top of the stresses of uncertainty one has been encouraged to be dominant, one will rarely dip into the engagement ethic. Instead one will flit between safety and detachment, seeking dominance in terms of status and power. Being mistreated may increase aggression, but not among those who score high on agreeableness (Meier, Robinson & Wilkowski, 2006). A chronically agreeable personality doesn’t mean you are a particular way all the time. It means that in particular situations, certain responses are always triggered, much like for aggressive children, it is situations of threat that lead them to act aggressively (Mischel & Shoda, 1995). Other times they can act cooperatively and seem like everyone else.

In summary, there are both dispositional and situational aspects to our moral functioning. Early experience (or experience during other sensitive times) set up our dispositional mindsets. But these interact with situation, meaning that particular settings may regularly provoke a safety mindset while another setting evokes an engagement mindset. These motivational mindsets are massive sets of schemas that have been shaped by caregivers in early life and by the activities that have been experienced and actions that have been practiced.

**Cultural Effects**

Most Western cultures no longer provide the EDN. Thus the natural flow of childhood established over hosts of generations has been radically shifted. In today’s world so many untoward and haphazard experiences occur during sensitive periods for brain/body development that individuals have a wider range of psychopathologies than in environments that support and provide the EDN. The effects go ‘all the way up.’ Secure attachment and corresponding emotional intelligence are decreasing (Goleman, 1995). The nation is full of people who did not get their formative needs met, hampering their capacities. Distrust has been climbing since the 1950s which is about the time of a significant downturn in childrearing (Putnam, 2001). Most births in the USA are traumatic now (Wagner, 2009) and undercare for multiple generations may epigenetically shape the brain for a focus on social harm and threat (Meaney, 2010). Avoidant attachment has increased significantly among American college students at the turn of the 21st century (Konrath, Chopik, Hsing & O’Brien, 2012). Empathy among college students has decreased over 10 years (Konrath et al., 2011). Instead, social encounters are win-lose, all or nothing, or zero tolerance, making it difficult to cooperate across perceived divisions. Jaccoby (2008) noticed in the USA a loss of the ability to listen to alternative perspectives. All this doesn’t mean people are not social (that’s hardwired) but that they are becoming less skilled and finding less pleasure in face-to-face encounters. The effects snowball across generations. Teachers report to me how different families are now. Children spend a great deal of time alone at home, buying food from local convenience stores when hungry, while parents are either working or entertaining themselves away from home.

As a result, I believe mainstream cultures in the Western world cultivate a safety ethic through undercare (missing EDN) and then build detached imagination through compulsory education that emphasizes intellect—narrowed thinking. Restlessness and technocratic thinking becomes the norm.The social separation that is forced on infants and children in settled, particularly Western, societies influence perceptions, attention, and social capacities, creating ‘one-person’ psychologies. They cannot escape self-protection and self-concern, showing increasing narcissism (Twenge & Campbell, 2006). In the process of dysregulating regulatory and socio-emotional systems, caregiving inconsistent with the EDN detaches moral emotions from their moorings in empathy and circumscribed autonomy space, inflating the I-ego (for self-protection). Non-EDN care can make one *less* perceptive and attentive to reality and less sensitive to the needs or interests of others. These experiences promote the Safety Ethic and promote attraction to self-aggrandizing narratives and imagination.

What happens when you build a society of atypical human beings? They, as adults, build societies that perpetuate the same undercare and, not surprisingly, rationalize it. In fact, cultural heritage, along with personal experience fostering incorrect intuitions, may have the largest impact on the under-flourishing that is so common among human beings today. For example, if parents are told that babies are evil or can be spoiled, they may ignore or punish them for the needs they express, co-constructing poor physiology and mistrust from which the child’s personality and trajectory emerge. US society currently is the epitome of a culture that undermines our moral heritages and instead promotes self-centered morality.[[12]](#footnote-13) This is because many institutions and policies undermine parent-child bonding and parental responsivity as well as the EDN for children.

The emphasis on cognition (intellect, reasoning) in most Western scholarship has led to the neglect or misunderstanding of affect (emotion, feeling). We know now that emotions must be well-educated or human functioning is malformed, at least in terms of human potential. Cultures that undercare for babies (e.g., leave them to cry) are impairing the development of moral sensitivity. In these cultures, there is often an emphasis on intellect, a discount of emotion—which stem from the adults’ own childhoods. Their emotions and social understandings are skewed towards detached imagination. In fact, there is a particular moral insensitivity in the West to the natural world perpetuated by foundational principles of many of its enterprises—from science, which treats any entity other than human as an object, to economics, which breaks relational responsibility to others in advocating the hoarding of capital and other resources.

**Moral Sensitivity and Self-Authorship**

 Learning moral sensitivity differs from schoolbook learning in that it does not emphasize thinking and intellect applied to hypothetical problems but requires situationally-sensitive actionable knowhow for everyday life (Varela, 1999). Moral sensitivity is not just a matter of empathic response but of interpretation—understanding the Other’s motives. Imagination is fueled explicitly or implicitly by emotion systems. What is important to note in terms of moral sensitivity is how mindset alters moral sensitivity. For example, if one has cleansed oneself in some fashion, research participants (north Americans) feel superior to others and are more likely to administer harsh judgment (Zhong, Strejcek, & Sivanathan, 2010).

 Learning moral sensitivity is similar to other forms of actionable learning in that it takes immersion, guidance and extensive practice to move from novice to expert. Most of this knowledge is learned and held implicitly. Conscious reasoning is the frosting on layers of implicit rationality built from the interactions with the world as a dynamic system. Implicit rationality includes social procedural knowledge constructed in early life, such as one’s empathic effectivity roots and autonomy space (Narvaez, 2014). These influence worldview and habits of inclusion/exclusion of others. Explicit knowledge works best when it matches up with implicit knowledge; otherwise implicit knowledge “wins” in behavior, especially under stress (Bazerman & Tennbrunsel, 2011).

But what about the person who missed EDN support? How can one reshape one’s empathy and sensitivity? Because the right hemisphere grows from experience throughout, moral learning can take place throughout life, though it may be difficult to rebuild the physiology that underlies optimal morality. If early learning involved extensive rehearsal and emotional commitment to self-protection, a reshaping of automatic behaviors may be needed. When these capacities are missing, one can build them up as a novice often learns a skill following a set of practices step by step (see Narvaez. 2014). One can foster appropriate intuitions and implicit understanding from being immersed in an environment that fosters good intuitions. One can use one’s abstraction capacities to select new environments to foster new intuitions, deliberately practice new skills, and review the narratives that guide one’s life. As Murdoch (1989) wisely pointed out, attention shapes desires and, in psychoperception lingo, *affordances* or action possibilities (Gibson, 1979). The Engagement Ethic can be fostered with practices of mindfulness and compassionate meditation. Resetting one’s vagus nerve can be done through self-calming practices such as meditation and deep breathing (Kabat-Zinn, 1990). In classrooms, student engagement can be fostered in this manner (Lozado, 2014) and with programs that bring babies to school (e.g., Gordon, 2006). Therapy can release the anger or fear that is tightly, implicitly held, and actually rewire brain networks (Doige, 2007). One can read widely in ways that increase empathy for others.

Even after early life the brain/mind requires appropriate environmental support for its optimal development until adult maturity (around age twenty-five), and then requires positive, supportive social experience that keeps the mind attuned to the community and the brain awash in prosocial hormones. Otherwise, morality can go awry, as evidenced in faulty cognitive or affective processes, resulting in violence to self or others.

In my view, moral sensitivity is about “being”—the nature of the person acting, perceiving and generating thought, action, and impetus. This aligns with wisdom traditions. Wisdom focuses on perceiving clearly with the “heart” which tunes into multiple levels of reality beyond what intellect can access. Wisdom is a state of being, not a matter or thinking or reasoning. The EDN fosters relaxed *being* whereas its lack can lead to a different mode of being: *restless doing*. Moral sensitivity plays a large role in moral wisdom which is comprised of how one lives day to day (Kupperman, 2005). Day-to-day living does not only impact those in the immediate vicinity but those out of sight and in the future. So when we are insensitive to those concerns, I believe we are being morally insensitive. Interestingly, what SBHG build bottom-up in children from early life EDN, Western Wisdom traditions build top-down in adults—presence, compassion, humility (Bourgeault, 2003). In fact the basis for detached imagination, the intellect (“thinking”), is distrusted by both our wise cousins (nomadic foragers) and wisdom traditions around the world because it easily deceives from its narrowed, concentrated attention.

**Summary and Conclusion**

Moral theory generally assumes autonomous agents, but babies are not yet autonomous. Caregivers have a great deal of say in the trajectory that is established for the child’s wellbeing and moral capacities. In early life, the evolved developmental niche (EDN) provides support for optimal morality through embodied learning “all the way down” to neurotransmitters and immune cells. They are prepared for communication from before birth and thrive on loving response. Like perception, worldview, and everything truly integrated into the self (as Piaget [1932/1965] noted), moral learning begins first as bottom up procedural understanding. Intuitions grow from immersed experience (Hogarth, 2000) starting in early life. The EDN provides implicit and explicit knowledge matching, starting the child off in the right direction. Social relations are risky and require physiology that is flexibly responsive.

Human intelligence is built on inherited adaptations from ancestors which requires the EDN for optimal development. Under conditions of the evolved developmental niche, an individual’s body builds systems that underlie sociality including how to self-regulate (e.g., manage stress and control survival systems). The EDN fosters species-typical development in the child, facilitating optimal outcomes. The child tunes up the inherited emotion systems of love and play which will follow them into all subsequent relationships.

Humanity’s moral heritages are compassionate (relationally attuned) and communally imaginative moralities (inclusive and egalitarian). If we are to restore our human moral inheritances, morality must be understood with a holistic life orientation (that includes all we do) and an evolutionary framing (that acknowledges our social mammalian needs) or else the baseline used will be willy-nilly and any aberrant morality can be condoned in the manner of training in accordance with norms of reason. Even the Klu Klux Klan’s constitution speaks of “love” and moral duty.

Basic insensitivity in a person I surmise is established in early life when insecurity is fostered by caregiving (non-EDN) practices. When early experience does not match up with the EDN, the individual is formed less optimally. Unresponsive care in early life can undermine right hemisphere development generally resulting in a potential variety of health problems and compromised sociality. When the EDN is missing, generally, we are less imaginative, less gracious, less aware and perceptive because we have had to spend our growth and energy too much on survival, control or withdrawal. Thus, when brain and body systems are poorly established and misdirected, it can influence life trajectory and may result in a failure to reach humanity’s fullest capacities. We can say it is species atypical. Moral sensitivity relies on all these physiological capacities. Individuals are less sensitive when they don’t feel well, are anxious, depressed or nursing a sense of injustice.

Non-EDN practices will limit empathy development and boost the ego into self-survival mode increasing the size of the ego to feel protected. This ego-inflation includes a sense of superiority to one group or other, starting with nature, babies and children, and extending to women and minorities or foreigners. Further autonomy as freedom to do whatever one wants is unfettered by sensitivity to the welfare of most everything else. Life becomes a matter of building protections against uncertainty and controlling the natural world. Protections including ideologies, material goods, power. An ethic of self-interested greed is assumed to be normal and natural. Even when masked with self-sacrificial acts.

Triune ethic theory (TET; Narvaez, 2008) describes three basic ethical mindsets. Two mindsets are fostered in humanity’s evolved early environment (the evolved developmental niche), Engagement and Communal Imagination. When things do not go well in early life there are noted effects because the engagement and communal imagination underpinnings are underdeveloped. A third set of mindsets are encouraged from early mistreatment, Safety and Protective Imagination. One can argue that practices that fall outside of the EDN undermine human moral development and the type of nature one develops, with long-lasting intergenerational effects (epigenetic inheritances that turn genes on or off).

 Our current cultural misunderstanding of human nature leads to mistreatment of children and leaves us caught in a cycle of anthropocentric, self-protective (hierarchical, exclusive, domineering) and detached (intellectualized) moralities due to the violation of our evolved heritages. On the brink of suicide along with the ongoing speciescide we perpetuate, humans may need to embrace our mammalian heritage, our basic needs such as intensive parenting and ongoing social support.

Human culture and personality are malleable. They can shift based on the choices individuals and communities make. A change in cultural practices of childrearing can help us return to a human nature that is peaceable, connected to Nature and virtuous. Adults can revamp their moral intuitions and responsiveness to situations with self-authorship methods to improve their moral sensitivity so it resides in an all-inclusive communal imagination.

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1. The lack of political state (government) would lead to humans existing in “continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short” (Leviathan, chapter 13). Downloaded on March 8, 2014, from http://oll.libertyfund.org/index.php?option=com\_staticxt&staticfile=show.php%3Ftitle=585&layout=html#chapter\_89842| [↑](#footnote-ref-2)
2. Ball & Russell, 2013; Bystrova et al. 2009 [↑](#footnote-ref-3)
3. Goldman, Goldblum, & Hanson, 1990; Nathavitharana, Catty, & McNeish, 1994; M. Walker, 1993 [↑](#footnote-ref-4)
4. Caldji, Tannenbaum, Sharma, et al., 1998; Champagne, Weaver, Diorio, Dymov, Szyf & Meaney, 2006; Levine, 1994 [↑](#footnote-ref-5)
5. Alfven, 2004; Calkins & Hill, 2007; Donzella et al., 2000; Eisenberg & Eggum, 2008; Haley & Stansbury, 2003; Jarrett et al., 2003; Propper et al 2008; Siniatchkin et al., 2003; Stam et al., 1997 [↑](#footnote-ref-6)
6. See accounts such as Dan Everett’s, *Don’t Sleep, There Are Snakes*. SBHG refuse to reason hypothetically. The Flynn effect (increase in IQ scores over the 20th century) is driven by the increased skill in hypothetical reasoning (Flynn, 2007). [↑](#footnote-ref-7)
7. A person who carries deep implicit distress inflicted by early trauma or emotional neglect may need to do a lot of work to let go of social anxiety and detachment (e.g., through therapy) in order to learn to be emotionally present. [↑](#footnote-ref-8)
8. e.g., impaired by separation from mother at birth or by unmitigated early distress; Bystrova et al., 2006; Porges, 2011 [↑](#footnote-ref-9)
9. The physiological systems involved in the engagement ethic are the mammalian basic emotions of love and play. The right hemisphere is especially important and develops more rapidly in the first years of life. These systems are grown and shaped by loving experience. [↑](#footnote-ref-10)
10. The Safety Ethic is based largely in closed systems that are difficult to influence once they are molded in early childhood. Parents encourage the dominance of this ethic through undercare as well as trauma, abuse or neglect. Although there may be brain plasticity after initial groundwork is laid in early life, flexibility to change brain architecture may require extensive therapy to recondition the mind/brain (e.g., re-parenting, mindfulness meditation). Without intervention, the individual likely will be left with the phylogenetically older safety ethic as a dominant mode for the moral life, with a certain stiffness of morality (e.g., rigid rule following). [↑](#footnote-ref-11)
11. Dispositionally, a person can favor one or the other type of safety ethic, or flip between them depending on the situation (a bully in one moment but a doormat in the next). We can see the safety ethic in operation with an authoritarian personality that claims dominance around low-status people but exhibits submissive behaviors around a higher-status person (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950). The flipping to imbalance (cacostasis), one-up or one-down, indicates a lack of nuanced social self-regulation. [↑](#footnote-ref-12)
12. Baselines for childrearing have shifted away from these practices in many Westernized nations. In the USA, there have been considerable changes in child birthing and rearing practices, many over the course of the 20th century, which may have a causal relation to “the hedonism of the 1960s, the narcissism of the 1970s, the materialism of the 1980s, and the apathy of the 1990s” (Peterson and Seligman, 2004, p. 5). For example, before World War II most babies were born at home, after the war most were born in hospitals in ways designed to be convenient for doctors, with little understanding of the impact on infants, and accompanied by beliefs that infants don’t feel pain. Books and shows depicting childbirth and subsequent motherhood in the 1950s such as *The Hours* or *Mad Men* provide illustrations of mothers who did not bond with their children as a result of these hospital practices. Such effects cascade across generations. The caregiving environment that has been normalized by culture represents an aberration in human species history, creating systematic “undercare” of children’s evolved needs. Indeed the increasing epidemics of diseases in mental, physical and social health in younger Americans suggest that something is very wrong with childrearing (National Research Council, 2013; Shonkoff & Phillips, 2002; Shonkoff et al., 2012). For many human beings today, flourishing is *not* an outcome. [↑](#footnote-ref-13)