Narvaez, D. (2013). Neurobiology and moral mindsets. In K. Heinrichs, F. Oser & T. Lovat (Eds.), *Handbook of moral motivation: Theories, models, applications* (pp. 289-307). Rotterdam, Netherlands: Sense Publishers.

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1. NEUROBIOLOGY AND MORAL MINDSET

Sense Publishers

ABSTRACT

Theories of moral motivation often focus on how central moral concerns are to the individual and the consistency of behaviour matching these concerns. Yet few people are consistently virtuous. Why might this be? Triune ethics theory suggests that humans evolved different moral mindsets that when triggered, vary in perceptions and affordances for moral action, thereby partly explaining human moral inconsistency. The three basic ethical mindsets are safety (self-protection), engagement (relational attunement), and imagination (abstraction). A mindset or its subtype can become a disposition and/or be evoked by situations—in person-by-context interactions. Normative moral mindsets for compassion and reflection may require optimal brain development during sensitive periods; otherwise a self-protective orientation can become dominant.

INTRODUCTION

Moral self, moral identity and moral personality are terms used to indicate the centrality of moral constructs in a person's self-concept (Lapsley & Narvaez, 2004; Narvaez & Lapsley, 2009). According to Blasi (1980), an individual with a moral personality situates moral concerns centrally in the self-concept and feels obligated to live consistently with respect to moral concerns. A person with a moral identity has moral traits that are chronically accessible and automatically applied to social information processing (Lapsley & Narvaez, 2004; Narvaez, Lapsley, Hagele & Lasky, 2006).

Most of the time, moral identity and moral motivation are discussed as if they are unitary concepts, as if the normative understanding of moral personality (e.g., responsible, caring, fair) is universal across individuals and situations. In this chapter, I suggest that moral identity and moral motivation are not unitary constructs but that instead humans have multiple moral motivations rooted in the evolved strata of the brain. According to this view, moral motivation shifts when a different mindset is active. Mindsets energize moral behaviour, like motivation generally energizes behaviour (Kelinginna & Kelinginna, 1981). In the view of

A.N. Other, B.N. Other (eds.), Title of Book, 00–00.

triune ethics theory, behaviour can be energized to self-protect, to attune with others or to abstract, detaching emotionally from the present.

MORAL MOTIVATIONAL MINDSETS

According to Triune Ethics Theory (TET; Narvaez, 2008b; 2009), three types of affectively-rooted moral mindsets emerged from human evolution based on evolved brain strata (McLean, 1990), although anatomical details are much more complex. Nevertheless, the strata tend to govern distinctive brain states, upon which morality is presumed to emerge (Gardner & Cory, 2002). These mindsets arise out of biological propensities but are shaped by experience during sensitive periods. Rooted in basic emotional systems, these biological propensities propel human moral action on an individual and group level. When an individual uses a particular mindset to guide decisions and actions, it becomes an ethic, a normative imperative that trumps other values.

A mindset represents a "central motive" that colours perception and goal setting and comprises part of what Moll and colleagues call the event-feature-emotion complexes that drive moral cognitive phenomena (Moll, Zahn, de Oliveira-Souza, Drueger, & Grafman, 2005). In other words, motivational cognition and emotion are inextricably linked (Allman, Hakeem, Erwin, Ninchinsky, & Hof, 2001). As a type of motivated cognition, each ethic influences which affordances are salient for action, saturating ongoing experience with that ethic's values (Moll, de Oliveira-Souza, Eslinger, Bramati, Mourao-Miranda, Andreiulo, et al., 2002).

Each ethic is *subjectively* moral, that is, to the individual in a particular moral mindset the actions undertaken feel like moral actions, like the right and good thing to do at that moment. The Ethic of Safety emerges under a sense of threat and is focused on self-preservation and self-protection. To most philosophers and religious traditions, the egoistic orientation or the Safety ethic is *objectively* immoral and because it is often reflexive instead of intentional, not moral. However, to the individual, the reflexive action feels good and right in that moment. The other two mindsets fit with normative theories of moral concerns. The Ethic of Engagement focuses on relational presence and social resonance. The Ethic of Imagination embraces reason, stepping back from present emotions to coordinate instincts and intuitions, adapt to ongoing social relationships, and address concerns beyond the immediate. An ethic can be primed by the context, in interaction with personality disposition.

The Safety Ethic: Innate Shaped Instincts

The Safety Ethic is rooted in the R-complex (MacLean, 1990), or the extra-pyramidal action nervous system (Panksepp, 1998). Dominant in reptiles, the R-complex in mammals relates to territoriality, imitation, deception, struggles for power, maintenance of routine and following precedent. The Ethic of Safety is

based primarily in these and similar instincts, which revolve around survival and thriving in context, instincts shared with all animals and present from birth. Primitive emotion systems related to fear, anger and basic sexuality reside here. Because survival mechanisms are hardwired into the brain, they are not easily damaged and can become the default mindset when social is lacking and brain development is suboptimal.

The safety mindset is about self-protection in view of perceived threat (real or imagined). The immediate goal for safety takes over the mind and energies focus there. When this occurs, the individual can take an aggressive stance (bunker safety), to ward off the threat, or a withdrawing, freezing stance (wallflower safety), to try to escape from the threat. A humorous example is when George Costanza on the television show *Seinfeld* thinks there is a fire at a children's party and pushes everyone else out of the way to escape to safety, thinking only of himself. The primary goal is to return to a sense of security, predictability and control, whether through harshness towards others, escape or some combination as with Costanza.

The ethic of safety is part of lower evolution, driven by goodness of fit and self-interest (Loye, 2002). It has its place in individual and group survival and as a more primitive moral expression. However, it is not the driving force of human evolution as identified by Darwin (1871/1981); that force is initiated in the systems underlying the Ethic of Engagement, an ethic that focuses on relational presence.

Engagement Ethic: Epigenetic Intuition

The second wave of brain evolution brought about the organization central to mammalian functioning, the limbic system and related structures ("paleo-mammalian;" MacLean, 1990). The foundational set of structures is identified as the visceral-emotional nervous system on the hypothalamic-limbic axis (Panksepp, 1998). This system lends a feeling tone to the functions of the reptilian brain, allowing for emotional signalling both internally (learning) and externally (sociality) (Konner, 2002). MacLean (1990) proposed that these paleo-mammalian structures are the seat of human emotion, personal identity, memory for ongoing experience, and an individual's sense of reality and truth. Notable are three signatory sets of behaviour that did not exist systematically in evolutionarily prior species (although these emerged separately in birds): nursing and maternal care, audiovocal communication between mother and offspring, and play. Human brains are reward-seeking structures, evolved to obtain gratification primarily from social relationships (Nelson & Panksepp, 1998). However, how well these structures function can depend on maternal and other caregiver care in early life.

A human infant's brain and body systems are dependent on experience, particularly through an attachment relationship that requires the caregiver to act as an "external psychobiological regulator" (Schore, 2001, p. 202) as the brain is socially wired and constructed in the early years (Eisenberg, 1995). "Development

may be conceptualized as the transformation of external into internal regulation" where the "progression represents an increase of complexity of the maturing brain systems that adaptively regulate the interaction between the developing organism and the social environment" (i.e., caregivers; Schore, 2001, p. 202). For example, the caregiver plays multiple roles in regulating the physiological and psychological development of the infant. Hofer (1994; Polan & Hofer, 1999) describes how the caregiver's "hidden" regulation of infant development cuts across sensory systems (e.g., tactile, olfactory) and influences multiple levels of functioning. For example, maternal touch can lower an infant's heart rate during a distressing experience, supporting an adaptive behavioral response in the circumstance (Calkins & Hill, 2007, p. 240). When separated, the mother's absence causes multiple levels of disruption in the infant and the infant stops growing (Schanberg, 1995). In contrast, skin-to-skin contact promotes healthy sleep cycles, arousal and exploration levels (Feldman, Weller, Sirota, & Eidelman, 2002).

Brain-building experiences are embedded in attachment relationships and are multivariate, little understood, but implicated in moral functioning (Schore, 2003a; 2003b). Here is one example. The basic regulatory processes of the parasympathetic nervous system appear to be deeply affected by caregiver behavior. This occurs in part via the regulation of the vagus nerve (vagal tone), upon which emotional, behavioral, physiological and motor regulation are dependent (Calkins & Hill, 2007). The parasympathetic nervous system regulates cardio output through vagal tone under environmental stress (Porges, 1996). Responsive parenting with co-regulated communication patterns are related to good vagal tone, opening up sociality, whereas nonresponsive parenting leads to poor vagal tone and social distress (Porter, 2003; Haley & Stansbury, 2003; Calkins, Smith, Gill & Johnson, 1998; Kennedy, Rubin, Hastings, & Maisel, 2004). In adults, good vagal tone function is related to greater compassion (Eisenberg & Eggum, 2008).

Evidence is increasing that engagement and its emotional components (e,g., secure attachment, empathy) is a primary force behind moral behaviour. For example, even among primates, empathy is a common occurrence (De Waal, 1996). Moreover, for most Gentile rescuers of Jews in World War II "caring compelled action"-- most were driven by "pity, compassion, concern and affection" (Oliner, 2002; p. 125). The Engagement ethic is a capacity that dominates social interactions in ancestral social contexts (i.e., among hunter-gatherers; Ingold, 1999) where generosity and affability are fostered (see Narvaez, in press-a).

To develop optimally, the Engagement Ethic may require compassionate reciprocal experiences during sensitive developmental periods, as evident in ancestral environments. My colleagues and I are studying whether this is true or not. We are examining ancestral parenting practices, practices that are variations on social mammalian caregiving evolved more than 30 million years ago. In early life these include natural childbirth, extensive breastfeeding, constant touch, responsiveness to the needs of the child, multiple adult caregivers, and free play Hewlett & Lamb, 2005). Even after controlling for maternal income and education,

we are finding that each is related to some aspect of three-year-olds' moral development (e.g., empathy, conscience, social engagement, inhibitory control; Narvaez, Gleason, Brooks, Wang, Brooks, Lefever, Cheng & Centers for the Prevention of Child Neglect, 2012; Narvaez, Wang, Deng, Cheng, & Gleason, 2012). Although evolution has prepared the human brain for sociality and moral agency, ancestral parenting practices during development may be required for normal formation of brain circuitries necessary for optimal social engagement and moral functioning (Greenspan & Shanker 1999; Narvaez & Gleason, in press; Panksepp 1998; Schore, 2003a).

The reciprocity learned in a mutually responsive relationship with the caregiver may form the basis of a sense of engagement and communion. Ideally, this is experienced in early childhood so that interpersonal respect and reciprocity form deeply in sensorimotor memory. Insensitive care may fail to foster the deep empathy of which humans are capable. Lacking mutually responsive care may result in a general insensitivity to others and perhaps to injustice itself (Lerner, 2002).

Despite the importance of empathy and communion in moral behaviour, most research in morality has focused on reasoning. Reasoning and related capabilities are central to the Ethic of Imagination.

Imagination Ethic: Cultivated Deliberation and Narrative

The third major brain formation to evolve was the neomammalian, which refers to the neocortex and related thamalic structures (MacLean, 1990). This somatic-cognitive nervous system on the thalamic-neocortical axis (Panksepp, 1998) is focused primarily on the external world, providing the capacity for problem solving and deliberative learning. The frontal lobes are considered the pinnacle of human evolution. They are the source of our deliberative reasoning, which includes much more than rational thought in the traditional sense. The mind thinks with feeling (Konner, 2002) and a mind without feeling makes poor judgments (Damasio, 1999). The frontal lobes provide the relay station between emotions and goals, planning and doing, coordinating systems from all parts of the brain. They maintain the sense of identity in cultural context through narrative self-explanation.

The development of brain areas related to the Ethic of Imagination, like those related to the Engagement Ethic, require a nurturing environment. The prefrontal cortex and its specialized units take decades to fully mature and are subject to damage from environmental factors both early (Anderson, Bechara, Damasio, Tranel, & Damasio, 1999; Kodituwakku, Kalberg, & May, 2001) and late in development (Newman, Holden, & Delville, 2005). AHMM-consistent care fosters the emotion centers in the right brain (Schore, 2003a; 2003b) including the orbitofrontal cortex (OFC), vital to lifelong emotion regulation, whose inadequate or damaged development leaves one susceptible to psychiatric diseases such as depression and anxiety. The prefrontal cortex is susceptible to damage throughout development, not reaching completion until the third decade of life (Giedd, Blumenthal & Jeffries 1999; Luna, Thulborn, Munoz, Merriam, Garver, Minshew,

et al., 2001). Binge drinking (Bechara, 2005) and violent video game play can turn normal brains into ones that look like those of aggressive delinquents (Mathews, Kronenberger, Wang, Lurito, Lowe & Dunn, 2005) as higher order development is halted. Of course, immature brain development influences moral expression, whether in the executive functions vital for the imagination ethic or the emotional regulation systems vital for the engagement ethic. The safety ethic is the default system when the Engagement Ethic and the Imagination Ethic have been poorly nurtured by the child's caregivers and community.

The Imagination ethic has several subtypes. *Communal imagination* combines the prosocial orientation of the engagement ethic with higher functioning, allowing for moral innovation and the extension of community beyond immediate relations into the future with those who are not present. *Vicious imagination* combines the self-protective mindset of the bunker safety ethic with the abstraction skills of the frontal lobe, creating plots and devices to impose one's will on others. When one has a powerful self-identity, it can propel one to take action (for better or worse). In terms of attacking USA interests, Osama bin Laden behaved from his vicious imagination mindset and, from what we are told in the gospels, Jesus usually behaved from an engagement or communal imagination mindset.

However, the human capacity for abstraction means that one can be detached from immediate social experience and reside in a personal realm. This happens when people have a personal goal such as the shopper who on an errand can be so single minded that she ignores social connections and misses opportunities to help others. In the modern world, this is a common occurrence. A dispositional *detached imagination* dissociates from emotion as a matter of course owing to right brain shut down, damage or inadequate socioemotional development (Siegel, 1999). Moral psychology experiments often focus on detached imagination by using decontextualized scenarios that do not require the intuitive insight provided by well-shaped emotions (Narvaez, 2010).

Adaptive Moral Motivation

Moral motivation fluctuates along with the changing needs and goals of the individual. As a shifting dynamic system, the individual moves through social space with general, built-in mammalian desires—to fit in, to connect with others, to be safe, to feel competent (e.g., Deci & Ryan, 1985)—but also with goal and dispositional habits shaped by experience. In each situation, an individual aims for what is perceived to be good and the most satisfying option. This is what all organisms do. Pattern recognition propels action. Learned patterns of response, especially sensorimotor memory built in early life, shape action choices and corresponding perception and action. Moral motivation is a momentary combination of immediate goals, longterm goals (e.g., identity, habits) and responses to the perceived context and the people (other dynamic systems) in the situation. If one has not had much social experience during sensitive periods, one may not notice social cues. If one experienced early trauma, one may have

heightened thresholds for threat cues, seeing threat where there actually is none (Dodge, 1985).

Personality involves chronic schemas of perception, interpretation and action that interact with situations (Lapsley & Narvaez, 2004). Personality dispositions form a unique personal signature within situations. For example, a man may always become dismissive and insensitive around women but not around men and only when feeling threatened. Some personalities are more strongly consistent across situations (e.g., always helpful to others) whereas other personalities may only be helpful to family members. Cultural narratives and expectations matter but so do individual practices that build capacities over time.

TET mindsets are distinctive and lend themselves to different motivations. Each mindset is an orientation rooted in a different set of emotion systems with a distinctive set of concerns. Safety and Engagement are orthogonal. It is not possible to be in both mindsets at once (although there may an oscillation between them). Safety is based in the sympathetic nervous system and the Engagement in the parasympathetic. In a safety mindset, the individual will operate reflexively with learned/conditioned patterns of self-protection and move within the emotion systems of FEAR, SEEKING, and RAGE (capitalized to reflect empirically identified systems, Panksepp, 1998). Memory and reasoning are diminished owing to self-protective sympathetic system arousal. Whether the person acts on preferred impulses for aggression or withdrawal depends on the skills of inhibitory control and how well the action fits with the goals of the moment. A person who has a habitual safety orientation may react internally with anger or insult but learn to inhibit external reaction. An individual may not run away physically but emotionally, as happens with avoidant attachment (Mikulincer & Shaver, 2007a). With emotional distancing and emotional detachment, harm to others is more likely (Bandura, 1999). However, one can learn to inhibit an ingrained safety ethic with meditation and other exercises, as well as immersion in safe social climates. Change can occur when one feels relationally calm and safe. Ideally, one learns to rewire the brain through intentional reshaping of habitual responses (Schwartz & Begley, 2003) and through maintaining moods that foster an engagement ethic, as when one focuses on gratitude or relational support (Mikulincer, Shaver, Gillath, & Nitzberg, 2005).

Whereas the Engagement Ethic is more of a right-brain orientation of openness and relational awareness, tapping into prosocial emotions of CARE, PLAY, LUST, the systems underlying the Imagination Ethic operate more from a left-brain orientation of analysis with linear thinking, categorization and so forth (for a review, see McGilchrist, 2009). These executive functions allow one to reflect on one's actions and imagine possibilities. Taking multiple viewpoints is a way to see alternatives to one's conditioned orientation. Human reflective capabilities allow for the selection of environments that foster preferred intuitions. However, reflective abstraction does not necessarily lead to changes in action. Changing habitual patterns of perceiving and acting takes more than reflection. It also requires guided practice (see Narvaez, 2006, 2007, 2008a, in press-b).

Personality Effects

As noted previously, dispositional tendencies towards one ethical mindset or another may develop from experiences during formative years. The dispositional tendency may be manifested as a meta-agenda for interpersonal relationships. See Figure 1 for a simplistic illustration of the three mindsets when online as "meta-agendas" and the subtypes that emerge.

Capabilities for the Engagement Ethic allow one to reach out to others in empathy when they are in distress (Mikulincer & Shaver, 2005). Good early care tends to foster an agreeable empathic, and conscientious personality (Kochanska, 2002) as well as openness to experience and good executive functions (Greenspan & Shanker, 2004), the characteristics typically found among moral exemplars. In fact, in our studies of triune ethics identity with college students, we are able to demonstrate the linkages among secure attachment, prosocial personality, triune ethics identities, and moral outcomes, such as action for the less fortunate (Narvaez, Brooks & Hardy, 2012).

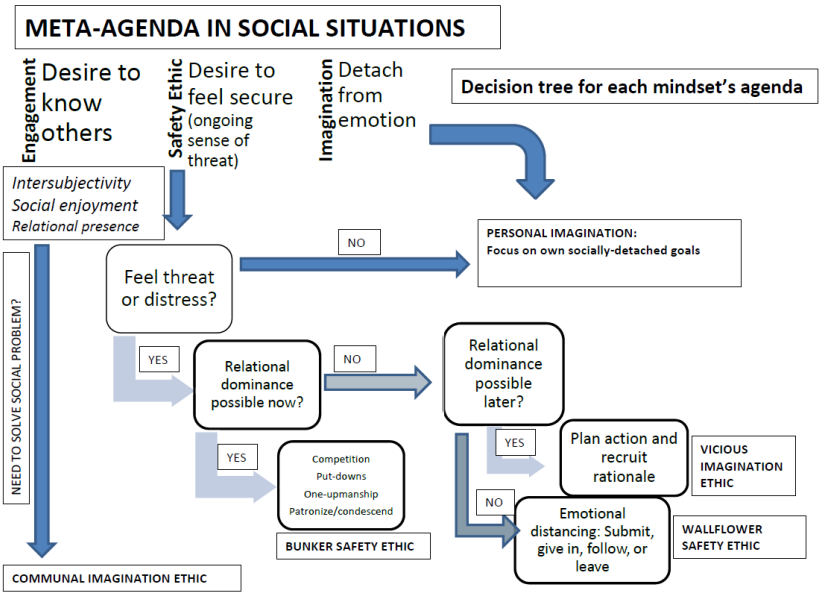

Figure 1. Triune Ethics Mindsets as Meta-agendas with Sample Decision Tree

In contrast, a person can have a foundational sense of insecurity based on early childhood experiences of extensive distress that together promote a distrustful view of the world. This is notable in attachment disorders, which can make a person less empathic toward and receptive to others (Eisler & Levine, 2002; Mikulincer &

Shaver, 2005). The person whose personality is dominated by the ethic of safety may have a "stressed brain" formation from trauma or neglect (Newman, Holden & Delville, 2005) or one in which the right brain may be partially shut down from inadequate emotional nurturance (Schore, 2003b). A stressed brain is related to poor attachment and bonding and to compromised social abilities: "Stress during infancy that is severe enough to create insecure attachment has a dissociative effect, disrupting right hemispheric emotional functioning and species preservative behavior, and a permanent bias towards self preservation can become an adult trait" (Henry & Wang, 1998, p. 863). In our studies of the safety ethic, we find that both wallflower identity and bunker identity are correlated with insecure attachment (Narvaez, Brooks & Mattan, 2011) and, unlike an engagement or imagination identity, not related to moral outcomes except for a desire to impose one's values on others. Bunker safety is also linked to different types of conservatism (Brooks, Stey, Narvaez & Bettonville, 2012).

In contrast, a personality that can integrate engagement and imagination into communal imagination is able to move beyond immediate self interest, to conceptualize alternative social systems, think impartially about moral problems, counteract harmful instincts and intuitions or behave altruistically in circumstances that evoke the safety ethic (e.g., Frankl, 1963). As pointed out earlier, however, when threat is high (and engagement ethic is low), a personality may be dominated by vicious imagination, focusing on maximizing safety and dominance, or disengage from emotion in detached imagination, making decisions like a distant bureaucrat (Bandura, 1999).

Situations may trigger a moral mindset, triggering self-situation memories (Freud's fantasies) except in the case of complete open-minded and openheartedness, which reflects a meta-agenda to avoid filters of judgment and analysis. TET mindset triggers can reflect a need for homeostatic balance restoration, setting up conditions for action (Franken, 2006). Action towards homeostasis can restore meaning and sense, diminishing threats to the self (Heine, Proulx, & Vohs, 2006).

What keeps moral behaviour going may be different from the moral mindset that instigates it. Disposition (practiced responses) and executive controls must keep it going. Persistence requires a meta-goal with ongoing monitoring of planned action. Expectancy theory (Vroom, 1964) may provide a framework for moral persistence, where motivation is influenced by expectancy (probability of success), instrumentality (connection of success and reward) and value of obtaining the goal. Using James' view of self-esteem (success/pretensions), those with low moral motivation may have had their prior attempts not succeed, affecting their sense of self-efficacy and self-esteem, and so they lowered their expectations for their own moral behaviour or shifted their attention and goals elsewhere—to more successful, better fitting endeavours (Higgins, 2012).

Situational Effects

Each of the three ethical mindsets is available to some degree in each person (unless there has been too much damage). Situations can stimulate different ethics. For example, terror management studies show that priming for safety (death) or for engagement (attachment) influences subsequent helping behaviour as well as attitudes towards and treatment of outgroup members (Hart, Shaver, Goldenberg, 2005; Mikulincer & Shaver, 2001). An environment characterized by safety and caring not only increases learning but prosocial behaviour as well (Solomon, Watson & Battistich, 2002). When a particular ethic is primed, it is presumed to influence perceptual sensitivities (Neisser, 1976), affective expectancies (Wilson, Lisle, Kraft & Wetzel, 1989), rhetorical susceptibilities (attractive fallacies), behavioural outcome expectancies and preferred goals (Mischel's "subjectively valuable outcomes," 1973, p. 270), as well as perceived affordances (social, physical and action possibilities). For example, when the safety ethic narrows one's perceptual and response systems, the affordances for behaviour centralize around self-advantageous and ingroup-advantageous actions.

Whether or not an ethic is evoked by a situation, culture or climate, varies from moment to moment according to personal history. Although situations can promote a mindset or put one in a mood for a mindset to be activated, habitually compassionate people keep themselves in a good mood (e.g., with gratitude) like the Dalai Lama. Priming varies in a person-by-context interaction. That is, some personalities are more primed by particular situations (Cervone, 1999). For example, although aggression cues promote hostile thoughts and actions generally, individuals high in agreeableness are not primed for aggression in these circumstances but activate pro-social responses (Meier, Robinson, & Wilkowski, 2006). Moral exemplars likely have less variability in their responses and, instead, like the Dalai Lama, are able to maintain an engagement or communal imagination mindset.

IMPLICATIONS AND CONCLUSIONS

Moral motivation may not be the unitary phenomenon it is often presumed to be. Triune Ethics Theory provides a way to consider the dynamic fluctuations in moral motivation and moral functioning as individuals perceive changes in situations, encounters and relationships. TET also offers a way to understand the importance of initial conditions (early life development) for moral motivational capacities and dispositions. In order to act with situation-appropriate compassion and reflection--the normative heart and mind of morality--individuals must have capabilities for self-regulation (e.g., self-soothing) and connecting to others (e.g., social resonance). These capacities initially rely on good early care (as represented in ancestral parenting practices), which is increasingly absent in modernized societies. Even if neglect is less than profound, its effects on the formation of systems that underlie optimal moral functioning can be long lasting. A child that spends a great deal of time alone in his or her room develops a different social orientation

(embodied understanding of the social world) than a child who co-sleeps with parents and siblings and is never isolated. Starting life without the rich soil of mutually responsive caregivers may leave a child with shallow roots in socio-moral functioning, tenuous self-regulation, and a self-oriented neurobiology. Children with these characteristics are less compliant with adults and rules (Kochanska, 2002), more dangerous to themselves and their communities, and must spend a greater amount of more limited energy to self-regulate for life success (Sroufe, Egeland, Carlson & Collins, 2005). Returning to evolved principles for early care may be a place to start to enhance human moral capacities.

Anthropologists and other scientists often remark on the intelligence, sensitivity and moral engagement of nomadic hunter gatherer communities (e.g., Diamond, 1997; Everett, 2009). Although ancestral parenting practices may form a large part of these outcomes, so does culture. Cultures of peace support families and children and build narratives of peaceful character (Fry, 2006). In environments matching assumed ancestral conditions, extrapolating from anthropological reports, a great deal of attention was paid to keeping people from feeling threatened or being aggressive through cultural practices of equality and affection (Fry, 2006; Dentan, 1968), practices that are related to increased wellbeing (Caccioppo & Patrick, 2008; Pickett & Wilkinson, 2010). (For a description of these environments and the application to moral functioning, see Narvaez, in press-a.) Perhaps it is time to pay attention to the types of biologically-supportive environments that promote optimal moral formation and alleviate the maternal and familial stressors that impair moral growth.

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