CHAPTER 46

Ethogenesis

Evolution, Early Experience, and Moral Becoming

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What is the best comprehensive theory for understanding moral development?

Taking an evolutionary developmental systems standpoint that includes multiple ecological levels and extragenetic inheritances (e.g., developmental niche, self-organization), ethogenesis describes species-typical moral development, which includes relational attunement and communal imagination—orientations and capacities that emerge from the biopsychosocial development of the brain/mind in early life within a species-typical niche.

What is the best comprehensive theory for understanding moral development? Ethogenesis takes an evolutionary developmental systems perspective to describe how moral dispositions are biosocially shaped by experience, especially in early life when basic foundations for biopsychosocial functioning are laid. It describes how development mismatched with the evolved development niche creates a different human nature, one that does not match u[illegible]ith 99% of humanity's history nor dis[illegible] the characteristics of what Darwin called humanity's "moral sense."

Ethogenesis directs attention to evolved global mindsets that can guide human perception, interpretation, cognition, and behavior. Triune ethics meta-theory (TEM; Narvaez, 2008, 2014a, 2016) was developed to bring the embodied perspective into moral psychological research (Narvaez, 2010b). TEM is part of the trend toward studying the effects of embodied experience on biopsychosocial functioning. It provides a way to integrate findings across neuroscience, developmental, personality, and clinical psychology. TEM identifies several neurobiologically based moral mindsets and proposes, for example, that self-regulatory capacities are critical for moral functioning. As illustration, when the stress response is activated, blood flows away from the prefrontal cortex, impairing higher order thought processes (Arnsten, 2009); with the mobilization of muscles and survival systems for personal safety, attention is drawn to is-

sues of self-concern. TEM also points out how neurobiological functions critical for moral functioning are significantly shaped by early experience (Schore, 1994, 1996, 1997, 2000, 2001, 2003a, 2003b, 2005, 2013). Notably, the parameters and threshold for the hypothalamic–pituitary–adrenal gland axis is established in early life, so that when early experience is highly stressful, an individual can develop a hyper- or hypoactive stress response, undermining capacities for social attunement (Lupien, McEwen, Gunnar, & Heim, 2009). The vagus nerve, critically formed by early caregiving, is fundamental to social approach and social closeness (Porges, 2011), capacities necessary for compassionate moral behavior. When basic neurobiological structures are poorly developed, humanity's highest moral capacities are undermined, and self-concern emerges as "normal" and morally justifiable.

The TEM framework for understanding moral development and behavior focuses on three orientations rooted in global brain states identified by MacLean (1990): protectionism, engagement, and imagination. When action is taken from an orientation, trumping other values and actions, it becomes an ethic. The protectionist orientation focuses on self-preservation through general distrust or, more specifically, through social opposition or withdrawal. Protectionist orientations are based in clinical notions of internalizing and externalizing and the power of social stress to direct perception, thought, and action in self-protective ways, guided by primitive survival systems (fight–flight–freeze–faint; Sapolsky, 2004). The individual's social homeostasis is thrown off, and he or she reacts cacostatically, too strongly (aggressively) or too weakly (withdrawing) in a one-up–one-down hierarchical manner. Protectionism can become dispositional if early experience is inadequate or other trauma occurs later in life that impairs neurobiological flexibility.

The engagement orientation draws on notions of emotional presence, relational attunement, and unconditional positive regard (Rogers, 1961), which rely on flexible developmental neurobiological capacities such as vagal tone (Porges, 2011) and socially supportive systems such as the oxytocin system (Carter, 2003). When the evolved developmental niche is provided in childhood, an engagement orientation develops naturally from experience, learned from experiencing intersubjectivity, emotional presence, reverence, play, and empathy (Emde, Biringen, Clyman, & Oppenheim, 1991; Trevarthen, 2005).

The imagination orientation emerges from executive functions such as planning, foresight, and abstraction (which take decades to fully develop), allowing for an imaginative perspective in social relations beyond face-to-face interaction. The imagination orientation can build on either protectionism or attunement. When imagination builds on relational attunement, as in a species-typical brain, it coordinates cortical and subcortical systems for cooperative and compassionate behavior. When imagination builds on self-protectionism, due to the (misdeveloped) power of survival systems that then hijack cortical systems, it results in an aggressive type (vicious) that seeks control over others or a withdrawing type (detached) in which abstraction capabilities are used without a sense of relational consequence.

Dispositional or Situational?

In any given situation, an orientation can become the mindset that dominates perception and action. For most people, moral mindsets shift frequently, depending on the context—who is present and the task at hand. Moral mindsets can be tonic, slowly aroused, for example, from a physical irritation that goes on too long and surpasses tolerance. Or they can be phasic, suddenly appearing, such as flying off the handle when driving. Sometimes there is a struggle between mindsets, and an oscillation between states can occur. Arpaly (2003) provides two useful examples of how the shifting can occur. The Nazi minister of propaganda, Joseph Goebbels, who organized attacks on Jews during Hitler's regime, occasionally behaved compassionately toward Jews he met, suggesting an engagement mindset. But afterward, because the Jews were members of a group he was trying to help exterminate, he would interpret his kindness as weakness of the will and harden his resolve to not lapse again, increasing his cruelty. In this case, Goebbels appears to have exhibited engagement in the presence of Jews and shifted into vicious imagination outside their presence. The storybook char-

acter Huckleberry Finn (Twain, 2001), like Goebbels, also interpreted as weakness of the will his reluctance to remit to the authorities his friend, Jim, a runaway slave. The morals he had been taught included obeying the law. But he could not bring himself to follow the law to turn in runaway slaves. In this case, an engagement mindset trumped rule learning (detached imagination). In these cases you can see mindsets shifting or in conflict, with explicit versus implicit understanding at battle. In the case of Goebbels, the context primed particular states, shifting perception and action, and so he flipped into different mind- and action sets. In the case of Huck, experience and practice changed his perceptions and understanding. Huck's deeper intuitions and tacit knowledge of Jim and his humanity trumped the explicit rules he had been taught.

Moral mindsets can be primed by situation or experience. With attachment priming, caring behavior increases (Mikulincer & Shaver, 2005), whereas with fear priming, self-protectionism ensues (withdrawal, detached or vicious imagination), as seen in terror management theory research (e.g., Mikulincer & Shaver, 2001). A similar withdrawal from engaged relationship is visible in moral disengagement, when emotional detachment and decoupling of relational responsibility lead to lack of caring behavior or worse (Bandura, 1999).

Mindsets can also be deliberately fostered, as in the Rwanda massacre, when radio programs denigrated the Tutsi and later encouraged the massacre against them (Dallaire, 2003). Suspicion and hate can be fostered through education as well, encouraging viciousness toward an outgroup, as before and during the Nazi Germany era toward the Jews (Staub, 1989). On the other hand, compassion training can foster a "broaden and build orientation," with decreased threat vigilance and increased openness (Fredrickson, 2001, 2013; Neff, 2011).

Historical Context: Understanding Moral Developmental Systems and Human Baselines

The humans we see today do not necessarily embody inherited human moral capacities that need species-typical experiences to develop. Developmental systems theory provides a useful framework for expanding understanding of human heritages and how they develop (Oyama, Griffiths, & Gray, 2001). Organismic adaptation involves resources that are available to subsequent generations—not only genes but culture, ecology, microbiome, and the developmental manifold or system in which an offspring is raised. The latter we call the *evolved developmental niche* (EDN).

The Evolved Development Niche

Like all animals, over the course of evolution humans developed an early-life niche for their offspring that matches up with the maturational schedule of the young. Humans are highly immature at birth, born 9–18 months early compared with other animals (Trevathan, 2011), with the most intense and longest lasting niche for offspring development (over 20 years). Early care evolved to be intense and to follow the EDN, which emerged more than 30 million years ago among social mammals and intensified through human evolution (Konner, 2005, 2010). The EDN for young children includes soothing perinatal experiences, lengthy breastfeeding, responsive caregivers, extensive positive and no negative touch, extensive free play with multiage playmates in nature, and emotional and social support (Konner, 2005; Narvaez, 2013).

Neurobiological and developmental studies show the importance of each of the EDN components in fostering health and social well-being (Narvaez, Panksepp, Schore & Gleason, 2013a, 2013b; Narvaez, Valentino, Fuentes, McKenna & Gray, 2014). An individual's neurobiology is co-constructed by caregivers during early life, when many brain and body systems establish their parameters and thresholds. EDN-consistent care forms biological underpinnings that follow a person the rest of his or her life, barring therapy or other modifying experiences.

In our laboratory, we have examined whether these early experiences influence moral capacities, and they do. For example, preschoolers whose mothers report greater EDN-consistent care show greater empathy, self-control, and conscience (Narvaez, Wang, et al., 2013). A longitudinal sample

studying touch found that over the first 3 years of life mothers who used corporal punishment had children who were less self-regulated, less socially engaged, less cooperative, and less socially competent and had more externalizing problems (Narvaez, Wang, Cheng, Gleason, & Lefever, 2015). Mothers providing more positive touch at 4 months had children with greater self-regulation and verbal cognitive intelligence at 36 months, even after controlling for responsive care (Narvaez, Gleason, Wang, Brooks, Lefever, Cheng, & Centers for the Prevention of Child Neglect, 2013). We also find that adult retrospective reports of EDN components were related to adult attachment, psychopathology, moral capacities (perspective taking, empathy) and moral orientation: Less EDN-consistent childhoods followed a suboptimal pathway to protectionist ethics through psychopathology and low perspective taking or high personal distress, whereas EDN-consistent childhoods formed a chain to secure attachment, low pathology, perspective taking or empathy, and an engagement ethic (Narvaez, Wang & Cheng, 2016).

Darwin's Moral Sense

Is morality innate? Darwin seemed to think so. Darwin (1981) described the moral sense as a set of capacities inherited through the tree of life (from earlier species). The capacities he identified include social pleasure, memory of past behavior, empathy, concern for the opinion of others, and habit control. What we are finding out today from research and social developments is that these capacities are not innate but biosocially constructed. To develop social pleasure and empathy requires experience of each through empathic care and experiences of social enjoyment with caregivers (Emde et al., 1991; Kochanska, 1994, 2002; Kochanska & Aksan, 2004, 2006; Kochanska, Aksan & Koenig, 1995; Kochanska & Coy, 1997; Trevarthen, 2005). Concern for the opinion of others and self-control also require responsive care in childhood (Kochanska, 2002). Memory systems too are influenced by the quality of childhood relationships (Grosjean & Tsai, 2007).

Thus it appears that Darwin's moral sense is not innate. Neither is it learned in the classic sense. Instead, it is deeply embodied in the early "wiring" of the brain, biosocially constructed from embodied social experience. Darwin's moral sense develops under particular conditions, conditions that used to be universal in childhood. How do we know? Because of converging evidence: 99% of human history was spent in small-band hunter–gatherer societies (SBHG; Lee & Daly, 1999); and in these societies, the EDN is provided to children, with slight variation; and members of these societies, from all reports, show the characteristics of Darwin's moral sense. SBHG become a useful baseline to use for human moral development and flourishing (Narvaez, 2013).

Is Morality Innate or Learned?

Some forms of morality are innate and others are co-constructed by social experience, especially in early life when brain systems, their parameters and thresholds, are established. Lower forms of morality (i.e., protectionism) are rooted in more primitive brain functions, the innate survival systems (e.g., fear, anger, panic circuits), with which humans are born. These survival systems are available from birth and can take over a mind when the stress response is activated. If a child is not properly cared for as designed by evolution with the EDN, these primitive survival systems are more likely to dominate personality and morality.

The higher forms of morality (i.e., engagement and communal imagination) are not innate but rely on circuitries that are initially co-constructed in early life when brain systems are highly immature and malleable. These circuits require appropriate early care when systems that facilitate prosociality are in rapid development (e.g., vagus nerve, endocrine systems). The EDN fosters the development of higher forms of moral function, those that are other-regarding, including relational attunement and communal imagination (Narvaez, 2014a). Thereafter, they are maintained by supportive environments, although extreme stress, such as war experience, can lead to a coup by survival systems which take over during stress in social relationships, as in posttraumatic stress disorder. Thus, although humans are born with survival systems that are conditioned up or down from early experience, the high-

er forms of morality require appropriate evolved care. Early experience sets the foundation for these characteristics. For the vast majority of human genus's existence, a common early childhood was provided to young children. The adult personalities that emerge from this common experience are similar all over the world (Ingold, 1999).

Is Morality Intuitive or Deliberative? One or Two or Many Processes?

Morality involves one's manner of being in the moment, which, of course, involves a shifting combination of intuitive and deliberative processes. Implicit moral processes emerge from social experience throughout life, with foundations established in early life, when all sorts of implicit understandings of the social world are ~~garnered.~~ As Jean Piaget documented thoroughly throughout his studies of cognitive development, implicit understandings and intuitions (schemas) develop first in a domain, guiding behavior; with enough experience and encouragement, explicit understanding emerges and explanations become possible, which he thought were evidence of thorough understanding (Piaget, 1963, 1954). Like any other cognitive development, moral understanding too is initially implicitly held unless it too is encouraged to become explicit (Piaget, 1965).

Specific implicit schemas and deliberate processes are influenced by multiple factors. For example, one's decisions are influenced implicitly by what is chronically accessible (e.g., moral identity; Narvaez, Lapsley, Hagele, & Lasky, 2006), which is influenced by the places where one habitually places one's attention (Murdoch, 1989). It also matters which form of attention is adopted at the time: focused or relational. Focused processing is left-hemisphere directed and narrowly attentive to decontextualized, static pieces of reality (McGilchrist, 2009). An emotionally detached concentrated attention is useful in rare moments when details are needed, but it otherwise misses out on a lot of what is really happening in the moment. In contrast, relational attention, reliant on right-hemisphere capacities (which are underdeveloped when the EDN is missing; Schore, 1994), is alert to the uniqueness of the moment, with a sense of living connection to whatever exists in the moment. A virtuous person will spend most time in the relational mode, responding to the individuality of the situation, using focused attention relatively rarely.

It is important to understand that automatic processes can be well educated, poorly educated, or uneducated and impulsive. Well-educated automatic moral processes are found in the virtuous person, whose sensibilities, perceptions, interpretations, and explanations are ~~geared~~ toward openness and prosociality. Poorly educated automatic processes are developed in "wicked" environments, ones that "train up" the wrong intuitions (Hogarth, 2001). So, for example, a child growing up in a violent home learns intuitions to be distrustful and violent and generalizes these reactions even to contexts that are not in themselves threatening. Or one can have no trained intuitions about something but react according to environmental press or based on what comes to mind (availability heuristic), what has been frequently recalled (accessibility heuristic), or a meme in the culture. With poor executive function from early undercare, one can be morally mindless and dominated by fast but dumb automatic processes, shifting from reaction to reaction. Moral mindfulness, however, combines explicit and implicit capacities for moral agility, based on experience, working at appropriate levels of detail or abstraction as needed.

Deliberate moral processes include following explicit decision trees, reasoning aloud about a case, and deliberating with others about possible joint actions. However, deliberate processes are always influenced by one's history, mood, expertise, reactivity, aims, immediate prior experience, and so forth. A virtuous person is aware of potential biases and takes the time to sort through them, to check reactions with wise others, to reflect on their behavior, and to move toward openness rather than bracing (Bourgeault, 2003).

A well-constructed brain is agile, working at appropriate levels of abstraction, with control or automaticity as needed (Koutstaal, 2013). In a poorly functioning brain, processing can get mired in abstractions, which can lead to depression, or in specifics, which leads to obsession. Or, a brain/mind that relies too much on controlled processes emphasizes rigid rule following, whereas too

much reliance on automatic processes can lead to stereotyping. A morally virtuous expert is able to shift attention and processes as needed for particular situations. Deep empathy (built from a species-typical niche) fuels communal imagination and action.

Is Morality Generic or Special?

Moral virtue is a set of capstone capacities that are founded on layers of other capacities (e.g., various forms of physiological or psychological self-regulation). Although morality includes judgment, it relies on self-regulation processes and well-trained emotion systems. It also involves perceptual sensitivities, conceptual structures, social sensibilities, self-regulation, and effectivities (effective action capacities; Narvaez, 2010a). Morality builds on general functions, including receptive intelligence. It builds ~~one~~ what the individual has experienced as pleasurable, how trustworthy others are perceived to be, how well ~~one's~~ emotions work to guide ~~one's~~ actions (how trustworthy ~~one's~~ emotions are based on their shaping in early life), how self-aware the individual is, and how socially fit he or she is (Narvaez, 2014b).

Morality is about skilled action or virtue—applying the right capabilities in the right manner for the moment. Quick judgments can be closed-minded and self-protective, representative of lower forms of moral functioning, or be based on experience and expertise, representative of extensive practice and know-how. For a moral virtue expert, the moral landscape for action is wide, with full intelligence (both receptive and focused) available rather than conditioned self-protective responses that impair flexible response.

Is Morality Culturally Uniform or Variable?

Evolution provided a cultural commons for ethogenesis. Human moral development used to be fairly uniform; in environments representative of humanity's 99%, SBHG societies, one can see the same type of personality and moral personality around the world. Adults are gentle, generous, calm, and happy (Ingold, 1999; review in Narvaez, 2013).

The difference likely has to do with early formation when the foundations of sociality are co-constructed. Human evolution prepared a uniform early nest for children, the EDN. In societies conforming with our 99%, children are provided this nest, a "cultural commons" for human personality and virtue development, resulting in adults who are calm, self-regulated, and content. They show patience, generosity, kindness, social fitness, and openness. Cultures in the last 1% of human history have violated the nest, with concomitant alterations in moral capacities, moral intelligence, and moral orientations.

Theoretical Stance: Similarities and Uniqueness of Ethogenesis Theory

Similar to other theories, ethogenesis looks to implicit processes as the power base for moral functioning. Implicit processes include neurobiological foundations for sociomoral intelligence built in early life when the right hemisphere is developing rapidly. But implicit processes must be well educated to be worthwhile. Top-down processes are also emphasized, as moral expertise is guided by mindfulness, self-authorship, and deliberately built cultural institutions (Narvaez, 2010).

Ethogenesis theory is different from other theories in several ways, including being more interdisciplinary; building on evolutionary relational developmental systems theory and taking a lifespan developmental perspective; integrating neurobiological roots of emotional and cognitive development; and understanding the importance of biosociocultural co-construction of human beingness. Ethogenesis used to be virtually the same for all humans, but now in the last 1%, culture has trumped evolutionary processes. Baselines for what is normal child raising, normal personality and well-being in childhood and adulthood, have deteriorated relative to our 99% so much so that culture supports the undermining of child well-being through intentional undercare (lack of EDN-consistent care), such as, for example, letting babies cry or forcing them to sleep alone.

Evidence

Ethogenesis is an integrative theory drawing from multiple disciplines. Evidence in support of moral developmental systems theory is interdisciplinary. It includes biological anthropology (e.g., McKenna & McDade, 2005; McKenna, Ball, & Gettler, 2007); affective neuroscience (Panksepp, 1998); clinical science (Schore, 1994, 2003a, 2003b); developmental moral science (Kochanska, 2002); relational developmental systems theory (Overton, 2013, 2015; Overton & Molenaar, 2015), and, more recently, studies of moral relational developmental systems theory (Narvaez, Wang & Cheng, 2016).

Ethogenesis theory is a meta-theory that addresses multiple levels: neurobiology, social context, and culture. Scholarship in multiple domains is currently undergoing paradigm shifts relevant to ethogenetic theory:

- From an emphasis on genetics to epigenetics in developmental psychology (Leckman & March, 2011)
- From genecentrist theory to relational developmental systems theory (Overton, 2013)
- Attending to epigenetic inheritance (Gluckman & Hanson, 2004, 2005)
- Understanding our inheritances through evolution as much more than genes (Jablonka & Lamb, 2006; Oyama, 1985, 2000)
- From an emphasis on genetic competition to an emphasis on cooperation in every natural system (Weiss & Buchanan, 2009).
- From dualism to biosocial co-construction of human development (Ingold, 2013)
- From static either–or thinking to dynamic interactionisms: biology and social experience, intuition and deliberation, culture and child rearing (Narvaez, 2014a, 2014b)
- From a focus on resilience to one on human potential (Gleason & Narvaez, 2014)
- Noting lasting effects of early trauma and toxic stress at critical times (Shonkoff & Phillips, 2000)
- From thinking that Westerners reflect human nature to studying our 99% (SBHG) for a baseline (Ingold, 1999, 2011)
- From emphasizing Western cognitive, left-hemisphere-directed thinking to a fuller set of intelligences (McGilchrist, 2009) better represented in SBHG societies (Narvaez, 2013)
- Realizing that only certain cultures damage human nature and the biosphere, whereas others are oriented to preserving it (Berkes, 1999)
- From viewing humans as unique to understanding their continuity in tree of life (Berkes, 1999; Margulis, 1998)
- Expanding virtue and morality beyond humanity to include other-than-human well-being (Narvaez, 2014a, 2015)

Extension and Expansion: Implications and Future Directions

Implications for Practice

To return to our evolved moral inheritances, relational attunement (engagement), and communal imagination, adults need to restore EDN—species-typical care of the young. Instead of focusing on genes and washing our hands of ~~child–adult~~ outcomes, we should be focused on epigenetics, taking greater intergenerational responsibility for the well-being of the young and future generations.

Implications for Policy

In the United States currently, many policies and institutions work against species-typical care (e.g., traumatic medicalized birth, infant formula feeding, sleep training for isolation). Instead, we should ensure that policies and practices ensure that every child receives care consistent with the EDN. This means that societies need to integrate child raising into adult activities and recenter workplaces around the needs of children.

Implications for Research

We have to be careful about which baselines we use for measuring human normality. We should not be drawing conclusions about human capacities from people raised outside the species-typical niche. Current research focuses primarily on human beings who typically have missed the EDN, mak-

ing them more stress reactive and necessarily self-centered. They miss developing fully the receptive and perceptive intelligences apparent in SBHGs. Just like Western, educated, industrialized, rich, democratic nations do not represent humanity, neither do their brains. They are the wrong populations for drawing generalizations about human nature or human potential.

Future Directions

It is only in the last 1% of human existence that humans have adopted a domineering attitude toward other-than-humans, enslaving both animals and plants (Martin, 1992, 1999). Humans have become an invasive pioneer species, which are typically "individualistic, aggressive, and hustling" and "attempt to exterminate or suppress other species" (Naess & Rothenberg, 1989, p. 182). Although invasive species learn to live in unfavorable circumstances, "they are ultimately self-destructive" and are ultimately "replaced by other species which are better suited to restabilize and mature the ecosystem" (pp. 182–183).

As a result of an invasive, domineering attitude, every ecosystem is under duress from human activity, which continues to accelerate (Millennium Ecosystem Assessment, 2005). Half the species on the planet have disappeared since 1970. The oceans are full of plastic instead of fish. The globe is warming. To discuss morality without discussing responsibilities to other-than-humans is inadequate. Other-than-human entities (e.g., plants, animals, mountains, streams) need to be included in the circle of concern.

In the 99%, individuals grew up in partnership with other-than-humans, not killing off predators or dictating which species should live or die. Again, the restoration of EDN, especially with childhood embedded in outdoor natural systems, may be needed to restore receptive intelligence capacities—the awareness and openness to other-than-humans. As in traditional Native American/American Indian communities, the embedded EDN nurtures a sense of ecological attachment to the well-being of the local landscape, leading to sustainable lifestyles and deep ecological wisdom (Berkes, 1999). Without greater ecological wisdom and virtuous action that encompasses the globe, the human species, along with many others, will disappear. An ethical theory must address this reality.

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