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CHAPTER 10

The Co-Construction of Virtue

Epigenetics, Development, and Culture

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The human sciences are uncovering what virtue theorists surmised long ago: virtue is co-constructed by those around you.[1] But it goes much deeper than previously explained. The effects of co-construction of the self in early life go all the way down to gene expression and the function of immune and neurotransmitter systems. All these can influence one's morality later because physiological function affects the nature of being and being influences morality. A suboptimal set of body/brain systems necessarily is less capable of performing at humanity's highest level, which entails communal imagination, a combination of deep compassion and wisdom in the moment.

On the one hand, although science can verify certain understandings and general patterns concerning virtue and its development, on the other hand, it is limited in its ability to guide virtue *application*. Science is either about pattern description (biology, anthropology) or about predictive laws (physics) and repeatable, lawful application. Yet, virtue application is neither following a pattern nor applying a law. When virtue is conceptualized as doing the right thing in the right way at the right time, as understood here, situatedness is critical. In this case, science cannot guide implementation because "Situations do not come in duplicates."[2] Applied ethics requires noticing the uniqueness of the situation, interpreting the landscape of implications and possibilities for those circumstances, dramatically

rehearsing options, prioritizing the best option for that situation, implementing the option in the appropriate way for those circumstances, and following it through to completion. There is no law of action that one can follow to know which principles to apply and how to apply them in a virtuous way for a particular situation. Though one may hold conscious general principles (e.g., compassion, honesty), they are too general and too narrow to guide specific action.[3] If it's virtuous, the specific action taken in a particular situation will be unique, tailored to the entities and circumstances at hand. Virtue is not about repetition and doggedness but about variation and agility.

Cognitive scientist Wilma Koutstaal provides a brilliant analysis and theory of an "agile mind."[4] The "representational accessibility landscape" in which a person resides includes emotion, perception, and conceptual memory, as well as representations of actions and goals. These different aspects move in and out of awareness, including into and out of focal and peripheral attention. Representational accessibility landscapes are continuously affected, moment by moment and over time, through environments experienced and selected, including physical, symbolic, and social contexts. The individual moves constantly in a spiral of perception-action (perceiving, acting, perceiving effects) or between goals and intentions and the options the world provides. The agile mind can shift among representations, from concreteness to abstraction, from controlled (intentional) to automatic (spontaneous) functioning, as needed. Those with cognitive, emotional, or psychopathological limitations tend not to display an agile mind.

An agile mind is a necessary component of a virtuous moral life, but so is a wide range of capacities. As one moves through shifting moral contexts, one needs a host of flexible application skills, skills that allow one to be socially and practically effective and for which one has built confidence through frequent appropriate deployment.[5] Moreover, orientation or mindset is also involved. It's not just any mindset that leads to humanity's highest moral capacities. One must cultivate the more prosocial orientations—those that allow one to swim in the social landscape with humility and sense of extensive social consequence.

How does one best develop flexible skills and optimal mindsets for life and morality? First, the body/brain has to work well. Much of the guidance for action emerges from the unconscious, implicit mind, which is more powerful in social situations and draws from knowledge and capacities developed and established in early life.[6] Optimizing capacities take a great deal of supportive social experience, and it starts from birth (if not during conception-gestation).

EARLY LIFE EXPERIENCE

To understand virtue development, one must understand humanity's evolutionary and developmental unfolding. Over the course of human evolution encompassing such things as bipedalism, human babies became increasingly helpless and immature at birth, emerging from the womb nine to eighteen months early, compared to other animals. Humans have 75 percent of the brain left to develop over a lengthy period of maturation (over 20 years) but most of it by age 5.[7] As a result, the early caregiving environment has enormous effects on all of a child's systems, including the development of the self, sociality, and capacities for self-regulation.[8]

Although the paradigm shift has started toward acknowledging the primacy of *epigenetics* (the fact that genes must be turned on, or "expressed" by experience), the majority of people are still led to believe that static genes play the largest role in whom a person becomes.[9] On the contrary, genes provide only a blueprint that requires experience, some during critical periods, for gene expression to occur. For example, Michael Meaney and colleagues have documented a critical period for rat pups in the first ten days of life when proper gene expression for controlling anxiety is switched on, but which only occurs when one has a normal nurturant mother; if one lacks a nurturant mother (high licking), the gene may never be properly expressed and new situations will cause anxiety for a lifetime.[10] If a species-typical developmental context is altered, modifications in gene activation, regulation, and selection will occur, creating species-atypical epigenetic outcomes that can get transferred across generations. Moreover, the developmental plasticity in early life means that the set points, parameters, and thresholds for many physiological systems are influenced as they are being established. As a result, the early caregiving environment will have long-term effects on the health and well-being of the offspring.[11]

Although many dichotomize nature and nurture, as if they can be separated, genes and environment form part of a shifting context for the ongoing development and functioning of an active, changing organism, marking "a host of recurrent interactions or coactions situated temporally and physically within complex developmental manifolds or systems."[12] Early life represents the complex beginning of a dynamic system: "Features of available prenatal and early postnatal sensory stimulation (such as amount, intensity, or the timing of presentation of stimulation) can co-act with specific organismic factors (such as the stage of organization of the sensory systems, previous history with the given properties of stimulation, and the current state of arousal of the young organism) to guide and constrain the developmental course of species-typical perceptual preferences, learning, and memory."[13]

What is the developmental manifold or nest for humans? What type of caregiving did human young evolve to need? To match the immaturity of newborns, over the course of mammalian and human evolution, humans developed intense parenting practices.[14] My colleagues and I call these caregiving practices the *evolved developmental niche* (EDN). This EDN, shaped over 30 million years of social and human mammalian development, is a form of support that matches the maturational schedule of the needy infant and young child. It may be critical for optimal physiological and social development.[15] The EDN for young children includes responsiveness to child needs, natural childbirth, two to five years of breastfeeding, frequent and pervasive positive touch, extensive free play, multiple adult caregivers, and positive social climate and support.[16]

Most research involving early life experience thus far has focused on the first in the list, responsive caregiving, particularly within the mother-child relationship. Attentive and supportive early caregiving results in what Fogel and colleagues[17] call a kind of "relational communication system," in which parent and child successfully modulate their behaviors to achieve an optimal level of physiological arousal and coordinated action.[18] Within the EDN, the child exists in a web of relationships (with other adults beyond the mother) that guide and shape systems which underlie perception and attention. As Murdoch[19] wisely pointed out, attention shapes desires and, in psychoperception lingo, *affordances* or action possibilities.[20] Perception and action also depend on mindset—which emotion systems are active (more below). In early life, capacities for cognition and emotion develop together in early implicit rational knowledge that underlies conscious thought.[21] As noted by Colwyn Trevarthen, through experiences of positive intersubjectivity with caregivers, which involve emotional presence and responsiveness, young children build flexible responsiveness-in-the-moment to others.[22] With EDN-consistent care, children experience companionship care that fosters not only emotional attachment but also deep social and cognitive intelligence. Caregiver and child co-construct their own narratives and play patterns that familiarize the child with a world of joyous being-in-the-moment. This sets the child on a trajectory for true (wise) rationality, which integrates well-trained emotions. In fact, without well-trained emotions, reason can be stupid and/or destructive.[23] Anthropologist Colin Turnbull offered a concrete example.[24] He contrasted his own British upbringing with that of the Mbuti, whom he studied. The Mbuti, with EDN-consistent care, reach adolescence with full sensory capacities and energy for adulthood, whereas he arrived with emptiness and almost a self-disownership, lacking emotional depth or sense of being, leaving him vulnerable to manipulation and ideologies of domination and aggression toward others.

Responsive caregiving shapes the regulation of physiological, but also emotion systems and social foundations, during sensitive periods for their establishment. Emotions and cognitive structures develop together in early life, from repeated or intense experiences.[25] Emotion systems (e.g., FEAR, PANIC, CARE) are placed centrally in the brain, interacting with more evolved cognitive structures and with lower-level physiological and motor outputs to guide behavior.[26] Emotion systems represent an inheritance of characteristics that worked for our ancestors for behaving in adaptive ways. With EDN-consistent support during development, physiological and emotional self-regulation increases and moderates action.[27] The mammalian brain actually has evolved to (learn to) delay impulsive actions, allowing for the selection and elaboration of a plan of action. With good developmental support, the action tendencies of more primitive brain systems interact with the planning, memory, and attentional components of higher order systems, both tuning into interindividual communication of affect and meaning. But to coordinate social action well, brains must be nurtured well. For example, young children who are cared for with little warmth and responsivity, even if their physical needs are met, show more depressed affect and fewer social bids than children with a nurturing caregiver.[28] Poor physiological self-regulation is associated with insecure or disorganized attachment to caregivers, a sign of misguided development from an evolutionary perspective.[29]

Self-regulation is a multilayered component underlying all functioning in mammals, including mental and social health.[30] But self-regulation is not the task of the offspring alone; it requires adult support for optimal development and is initially fostered by caregiver interaction in early life.[31] Self-regulation is by definition a social, and primarily dyadic, process that begins at (or even before) birth. The human infant is characterized by significant neurological immaturity, and thus even such basic physiological processes as regulating temperature and the sleep/wake cycle require support from a responsive, caring adult. Specifically, maternal sensitivity has been identified as an important component of an infant's physiological regulation.[32] Hofer's work, examining the deterioration of various systems when infant rats are separated from their mothers, indicates that mammalian self-regulation comprises multiple physiological systems.[33] At this level, self-regulation is mostly outside conscious awareness. So, for example, the stress response system is set up well with responsive parenting (i.e., limiting distress, providing comfort, meeting needs immediately). Systems related to the stress response include the hypothalamic-pituitary-adrenal gland axis and the vagus nerve. Unresponsive parenting is linked to maladaptive functioning in both systems.[34] Repeated experience of stress in early

development can become a pattern that establishes a suboptimal foundation for future development.[35]

When things go right in early life, the individual becomes not only well self-regulated but also highly socially skilled, with full empathic and socially flexible skills.[36] Because requisites for affection, autonomy, and other basic needs were met, the individual is able to be attuned to others and take up social experience with vigor. She has less self-preoccupation than a child whose needs were denied. She is able to be emotionally present with others and solve social problems with others in mind, based on her own life experience with caregivers. However, when things go poorly in early life, neurobiology and social development can be deformed. This is evident in insecure attachment. In one type, anxious attachment, cognition is underdeveloped and emotions are out of control.[37] In another type, avoidant attachment, emotions are underdeveloped and cognition becomes detached (a type that is increasing among U.S. college students).[38] The effects of insecure attachment are most apparent in social relations—people have difficulty getting along as flexibly intimate companions and instead they emotionally disassociate or move to domination and control of others.[39]

Well-constructed socio-emotional systems are fundamental to virtue. Indeed, Kochanska's extensive work on mother-child relations and the development of morality indicates that secure attachment style and moral development are greatly influenced by responsive care.[40] A mutually responsive orientation in the mother-child relationship from the beginning has long-term beneficial effects on the development of empathy, conscience, cooperation, and prosocial behavior.

Although we know through decades of research that responsivity has long-term effects on children's well-being, responsive care is only one of the characteristics of the evolved developmental niche. Research into the effects of the other practices characteristic of the evolved developmental niche shows that they matter for physiological health.[41] For example, breast milk provides all the building blocks for the immune system, which is housed primarily in the gut, as well as supports healthy brain development. Touch is important for promoting growth, healthy stress response, and other systems. Rough-and-tumble play develops executive brain functions. Interfering with natural birth processes can negatively impact child health and maternal-child bonding. The EDN fosters healthy, well-functioning neurobiology and self-regulation from the first hours of life (or earlier, such as from conception, though grandparental experience also has effects). Extensive research with animals and humans demonstrates that lifelong deficits can occur when early experience is suboptimal. Like the foundation for a house, later development builds upon early development. Touch also

influences stress response in that, as noted above, without plenty of nurturing touch, genes (e.g., those that control anxiety) may not be expressed properly for the rest of life.[42] Such findings should not come as a surprise, as each human is a dynamic system, whose initial conditions matter for later outcomes.[43] For optimal moral development, the vast immaturity and neediness of human infants may require more than responsive relationships with caregivers.

My colleagues and I are examining whether each of the EDN components (e.g., breastfeeding, touch, play, social support, natural childbirth, and responsivity) matters for child moral outcomes in early life. In two studies (in the United States and China) with mothers of 3- to 5-year-old children,[44] Our data show that after controlling for maternal income and education as well as maternal responsivity, children's *empathy* was influenced by type of childbirth (lower with cesarean birth) and by touch in infancy; and at age 3, by play with mom and with other adults. Maternal reports of child *self-regulation* were correlated with no C-section, and with positive touch in infancy; and at age 3, with play with mom and with other adults, multiple caregivers, and family cohesion. Children's *inhibitory control* was associated with breastfeeding length and with positive touch in infancy; and at age 3, with play with mom and with other adults, and with family cohesion. Children's *conscience* was correlated with breastfeeding length, positive touch, play with other adults, and multiple adult caregivers. A third study used a pre-collected longitudinal dataset.[45] We examined children's prosocial behavior (cooperation, social competence), behavior problems (internalizing, externalizing), and cognitive ability (intelligence, auditory comprehension, and verbal expression). We controlled for maternal responsivity to see if responsivity, breastfeeding, touch, and maternal social support would influence child outcomes. Here are a few findings. *Prosocial behavior* (measured at 18 and 30 months) at 18 months was predicted by breastfeeding initiation and at both 18 and 30 months prosocial behavior was predicted by maternal responsivity at 4 months and maternal social support. These results suggest that early life experience influences the development of moral capacities.

Generally speaking, prosocial behavior is an indicator of well-functioning social and emotional systems and proper right hemisphere development in early life. Breastfeeding initiation corresponds to maternal responsivity, which fosters good attachment and the corresponding brain development. Maternal social support encourages a mother to be responsive. Overall, our findings suggest that more than responsivity may be needed for moral development. The EDN may provide the necessary grounding for bottom-up virtue development among humans.[46]

VIRTUE AND MORAL ORIENTATION

Critical features of virtue involve basic capacities that were traditionally formed in an early life evolved developmental niche (though some may be remedied later with extensive, immersive experience).[47] Ongoing experience with caregivers in the EDN includes the practices of emotional presence, reverence (openness to the depth of the Other), synchrony and repair of dysynchrony in communication, intersubjective mutual influence, empathy, and perspective taking.[48] Babies are prepared for all these aspects and rapidly develop reciprocal skills in a supportive environment. Such deep and ongoing experience with caregivers leads to social pleasure and social effectivity—capacities that foster what I call *empathic effectivity roots.* Without these capacities, one is less able to be relationally attuned and display the social fittedness that Aristotle included in his list of virtues, resulting in mismanagement or misjudgments of social relations and a more self-focused personality.[49] See figure 10.1 for an illustration of moral developmental systems theory and life trajectories related to the EDN.

The EDN fosters frontal controls of subcortical emotion systems—networks that are scheduled to develop during early life and that are necessary for controlling self-protective (fight-flight-freeze-faint) emotions in social relations.[50] The self-protective emotions that occur with the stress

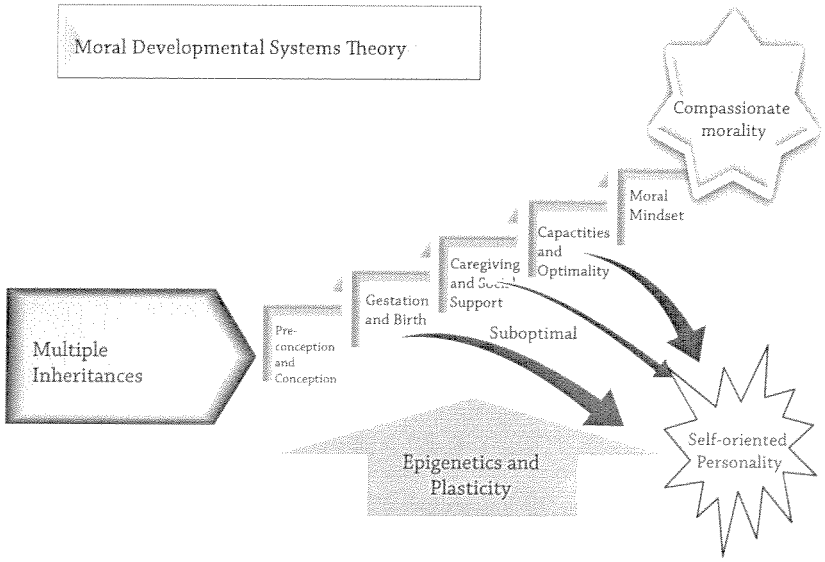

Figure 10.1.
Moral Developmental Systems Theory Showing Evolved Developmental Niche Trajectories.

response (fear, anger) can otherwise take over mind and attention, derailing the more delicate capacities for abstract thinking and reflection. The interrelations of executive function, emotion, and cognition neurobiology in the development of social functioning matter for moral functioning and are integrated in triune ethics theory.

Triune ethics theory (TET) describes three basic moral propensities with evolutionary roots.[51] MacLean noted three distinctive evolved brain strata that establish different global brain states.[52] TET identifies how making moral decisions and taking moral action from each brain state represents a different ethical orientation. The moral orientations emerge from distinctive cognitive-emotional-perceptual states that shift the processing of life events. For example, emotions change vision;[53] and goals and needs shift affordances (perceived action possibilities).[54]

Triune ethics theory identifies three basic moral orientations (with multiple subtypes): Safety (relational self-protection), Engagement (relational attunement), and Imagination (reflective abstraction). They are fostered by distinctive early experience and general cultural milieu. The ethic of Safety represents a stress-reactive orientation that focuses on the self. Although most theorists consider morality to be necessarily concerned with the welfare of others, from a subjective position egoism is a moral orientation. (More on this later.) The Safety ethic is based primarily in instincts for survival (rooted in the brain stem, lower limbic system), which are systems available at birth, shared with all animals, and useful in moments of physical threat.[55] The Safety mindset is primed by perception of a fearful social climate or situation and focuses on "me and mine." It can be acted on as a general orientation to life, filtering life events at a subliminal level (e.g., rejecting a new idea out of hand, inflexibly applying categorization to new experience). It can also fluctuate between an aggressive or withdrawing stance propelled by social stress reactivity. The stress response activates the sympathetic nervous system, taking over attention and depleting resources for higher order processes.[56] Anger and striving (related to "grasping" or hoarding of some kind for self-protection) indicate that the sympathetic autonomic system is active, driving an aggressive-defensive orientation—self-preservational externalizing behavior. It can become a habitual orientation for those who were abused or traumatized, especially in early life, and can be seen in bullying and scapegoating. A second subtype of Safety ethic occurs when the parasympathetic system kicks in (after an immediate or historic unsuccessful sympathetic system response to flee or fight). It is represented by dissociation, freezing, and paralysis. One becomes passive and/or withdrawn from relationship, a self-preservational internalizing behavior.

The second ethic, Engagement, is rooted in prosocial mammalian emotion systems linked to intimacy (care, play)[57] and the capacities underlying

Darwin's "moral sense" (e.g., social pleasure, social skills, concern for the opinion of others).[58] The ethic of Engagement represents relational presence and attunement with the Other in the present moment ("you and me"). It is fostered by the EDN and primed by supportive, caring relationships and environments. It underlies compassionate response, the force behind "positive" moral behavior, such as the Gentile rescuers of Jews in World War II, who stated they were driven by "pity, compassion, concern, and affection" when faced with another human being in need.[59] The ethic of Engagement is not innate, but its development requires a receptive, emotionally supportive early environment (or during subsequent sensitive periods). It relies on well-functioning systems that are lateralized to the right hemisphere, brain circuitries that develop in the first years of life, that are necessary for successful social intimacy.[60]

Humans, like all mammals, evolved to favor face-to-face relationships and have difficulty imagining those not present. However, with the third brain strata to evolve, humans have a further capacity that is largely theirs alone: an extensive frontal lobe with the added complexities of the prefrontal cortex. The frontal lobe allows humans to think about those not present and make plans for the future based on the past. The ethic of Imagination is rooted here, expanding capacities beyond what is face-to-face, using abstraction, deliberation, and imagination to coordinate instincts, intuitions, and principles; to integrate the goals/needs of the self with the goals/needs of others; and to adjudicate reactions and outcomes of the self and others within a shifting representational landscape. All of this supports reflective abstraction and macro morality (taking into account those not physically present). It provides a narrative grounding for relationships ("it's about more than me and you").

There are multiple types of imagination; for example, one is connected to engaged prosocial emotions (communal imagination), another to deliberate self-protection (vicious imagination), and another is divorced from emotional connection (detached imagination). *Communal* imagination involves an ethic of love, sympathetic action, egalitarian respect. *Vicious* imagination involves a deliberate divorce from engagement (hardening of the heart). The one I consider most dominant in explicit Western culture is *detached* imagination, which represents a focus on predominantly "left hemisphere directed," conscious thought, predominantly emotionally cool or cold. It categorizes and stereotypes, objectifies, dissects and orders, decontextualizes; aims for control and power over objects; seeks a firm, certain answer; calculates the usefulness of other people and things.[61] According to Flynn himself, hypothetical thinking, which is part of detached imagination, is the source of the Flynn effect (the rise in IQ scores in the

United States during the twentieth century).[62] In a detached imagination mindset, the individual is not deeply attuned to relationships, which itself can lead to innovation without a sense of immediate and/or long-term social consequence. Detached imagination is what is usually studied in empirical moral psychology, what Western schooling emphasizes, and what undercare in childhood encourages.

But then, what is an ethic? Both subjective and objective viewpoints are brought together in TET. According to triune ethics theory, when an event occurs (internal or external) and an emotion-cognitive response triggers socially relevant behavior that trumps other values, subjectively it represents an ethic. In any given moment, all animals aim for what they perceive is "the good," and humans are no exception. Thus, when a person acts from the global mindset, in that moment he or she does so with a sense of justice and rightness. In this manner, self-protection, based in the survival systems of the most primitive parts of the brain, operates as an ethical orientation, even though, objectively speaking, taking all possible perspectives into account, it is less "ethical" than a more communal orientation. However, what seems subjectively good may not be objectively good.

The subjective ethic that matches up with the highest form of morality is *mindful morality*. Optimal morality is not so much about *thinking*, although flexible (and postconventional) thinking is vital when needed, as *being* and *behaving*. Mindful morality involves "full beingness with others" in a behavioral manner that promotes flourishing in the broadest sense—inclusive of self, one's family and community, the natural world, and future generations, including those in the natural world. Indigenous peoples traditionally hold this mindset.[63]

Although each ethic is available to almost everyone because of evolutionary propensities, based on experience individual brain/minds can favor one ethic over others or in particular situations. An individual's perceptions and action capabilities shift by situation and can be handicapped or enhanced by prior experience. How ethical orientations shift from situation to situation, moment to moment, is reflected in a person-by-context manner.[64] However, it is easy and satisfying to downshift to self-protective mindsets.[65] It is also easy to *build* a brain that has a propensity to favor self-protective moralities. Without early life EDN, the resulting human nature can become disordered in multiple ways, depending on the type, duration, intensity, and timing of undercare, plus epigenetic inheritances from ancestors.[66] The Safety ethic, conditioned during sensitive developmental periods or from traumatic experiences, can impair higher order reasoning capacities and compassionate response, keeping a focus on self-preservation. Insecure attachment is a sign of neurobiological miswiring in early life.

Those with insecure attachment are less socially adept and less empathic, necessarily caught in a self-nature that is suboptimal. In work from my laboratory, we find that those who have higher scores on a Safety ethic orientation tend to show greater insecure attachment and less trust, empathy, and integrity.[67]

How do TET mindsets relate to the EDN? In a study of over 400 adults, a 10-item adult self-report measure of EDN history was correlated with ethical orientation.[68] Items were 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). Those who reported less play and family togetherness activities were more likely to have a safety ethical orientation (either aggressive or withdrawing). A withdrawing moral orientation was also correlated with less reported affectionate touch. Both engagement ethic and communal imagination ethics were related to longer breastfeeding, heightened responsivity, less corporal punishment, greater inside and outside play, and more family togetherness. Engagement was also related to greater affectionate touch. In an examination of mental health, poor mental health was related to more self-concerned moral orientations. That is, anxiety and depression were positively correlated with Safety ethics and negatively correlated with Engagement and Imagination.

In early life, the EDN provides support for optimal development, including moral learning. Like perception, worldview, and everything else truly integrated into the self, moral learning begins first as bottom-up understanding (i.e., intuitions built from immersed experience).[69] This starts in early life, which in the past was a universally shared experience.

UNIVERSALS IN VIRTUE AND THE IMPORTANCE OF CULTURE

Among all animals, a species-typical developmental system (the nest or niche) creates similar species-typical outcomes.[70] How do we know that humans studied in Western cultures by psychologists today, with their low empathy, high self-protectiveness, notorious cheating, and aggression, are *not* the way humans evolved to be? Because those who receive the full complement of early experience that humans evolved to expect (the EDN) do not behave these ways, even under extreme duress.[71] I refer to nomadic hunter-gatherer societies, which are presumed to represent the social context in which humans evolved and reflect 99 percent of human genus history.[72]

Until recently in human genus history, the EDN was universally experienced by humans, and because of this, may have brought about basic similarities in moral foundations of thought and feeling—a "cultural commons." An early cultural commons forms the grounding for mental and moral agility and for a common humanity. In terms of social and moral development, the EDN fosters basic universals in implicit procedural social knowledge that underlies human thought and emotion—a solid empathic core and a sense of autonomy circumscribed by that empathic core. This is evident among small-band hunter-gatherers, for which a similar type of society emerged independently around the world, as documented by anthropologists.[73] These groups share social and personality characteristics that include generosity and sharing, egalitarianism, and lack of coercion. Although there is high individual autonomy, there is also high commitment to relationships. Instead of agency (personal autonomy) and communion (communal relations) being opposing forces, as presumably found in Western mainstream groups, agency and communion align and guide a common purpose of living in harmony with other people and the natural world.[74] After experiencing the EDN in childhood, the uniqueness of a particular culture is the frosting on a cake of a common human nature.

A similar basic culture is found among our hunter-gatherer cousins, one that supports the EDN for children and others throughout life.[75] Adults raised within the early-life EDN appear to be wise about what children need for optimal development and they create a culture that continues the EDN. Social life is deep and satisfying. No one is coerced, even children, who are allowed autonomy as well. In contrast, adults raised outside the EDN, as in the West, create cultures that do not meet the needs of children. In animal studies, poor parenting spirals downward over generations.[76] Along with an early experience that builds the foundations for full human moral capacities, culture is also vital. Cultures not only press caregivers in certain directions for childraising, they immerse their members in a stew of emotions, interpretations, and narratives. They set the parameters for moral concern and lubricate opportunities toward virtue or vice. Among humans, cultures without an early EDN will perpetuate vice from the bottom up, leaning toward self-protective and self-aggrandizing ethics.

When societies curtail the human heritages of close maternal, familial, and community care, so too are curtailed the extensive empathy and self-regulation that otherwise underlie individual autonomy and self-development. Traditions that emphasize detached parenting in early life undermine the development of the components of both Engagement and communal Imagination. Lack of EDN makes one more stress- and threat-reactive and less able to cope with social stressors, leading to habitual use of self-protection

in social and moral relations. Diminished are the holistic imagination and receptive intelligence that those raised in indigenous cultures display. As a result, one can argue that today's "civilized" humans are less intelligent, perceptive, well, and wise than their ancestors or cousins who live within a culture supporting the EDN. In terms of morality, today's humans exhibit various levels of self-centeredness, with a fundamental focus on self-aggrandizement and self-protection. Stripping away the evolutionarily evolved principles of childrearing, as some traditions have done, leaves the child with a minimized internal moral compass in early childhood. This leads to the need for externally imposed social learning and morality—explicit rules must be memorized and coerced with sanctions or constructed incentives. With the variability in early life experience, each social group or subgroup may develop or apply an ideology that clashes with another's. Because of the dearth of implicit social knowledge from an EDN-supportive culture, *beliefs* and *thinking* become all important instead of *being*. Individual agency moves *against* others instead of *with* them and *with the natural world*, as is the case among nomadic hunter-gatherers.[77] This stems at least in part from the fact that the individual does not have the early life grounding that provides a previously universal experiential knowledge to guide her.

Thus, socio-moral imagination is shaped in a deep manner (neurobiology and up) by experience. Most of what we know is implicitly held. Conscious reasoning is the veneer on layers of implicit rationality and physiological function built from the interactions of a developing dynamic system. Implicit rationality includes social procedural knowledge constructed in early life, such as the depth and breadth of empathy and the parameters for one's autonomy.[78] These influence worldview and habits of inclusion/exclusion of others (pro-nature vs. contra-nature or humanistic vs. normative).[79] Explicit knowledge works best when it matches up with implicit knowledge; otherwise, implicit knowledge "wins" in behavior, especially under stress, leading to hypocrisy and self-blindness.[80]

As noted above, what EDN care in early life provides is the grounding for fully developed right-hemisphere capacities (encompassing the implicit mind and capacities for sociality). Right-hemisphere processing has greater flexibility, breadth, and inclusive creativity. Right-hemisphere directed processes allow one to be nonevaluative—to notice, enjoy, and receive. Detached imagination, circumventing emotion, shows a lack of awareness that one is attached to all things, missing the sense of enwebbedness where everything one does reverberates on everything else in a given woven fabric of relationships.

Without the EDN creating a grounding for virtue, one's particular culture will matter more, providing narratives and reasons for morality that

must be adopted. These often contrast with the distrustful, self-protective orientation that has been learned implicitly. External values then must be coercively imposed to fill the sense of emptiness, to fill the "hungry ghost" of a person without the grounding of an empathic, connected core. Non-EDN care becomes a cycle of misraised adults perpetuating (and making worse) the environments for childraising, further stripping humanity of its evolved moral foundations, influencing the development of self and its relations to others, to nature, and to embodiment. The undermining of the EDN is perpetuated by beliefs that continue the perversion of the early environment (e.g., "human nature as evil," "body as disgusting," "body as machine," "nature as inferior," and extreme individualism imposed on babies). Missing is a wholistic orientation, which requires full right-brain functioning, that allows one to sense the ultimate unity of all living things, as science has shown them to be at the quantum level.[81] A culture without the EDN becomes competitive, operating from Safety-rooted sociobiologies of dominance/withdrawal (see figure 10.2a). Ultimately, it creates humans who are less than fully human.[82] Agency moves against others and communion feels smothering or risky.

What does the alternative look like? Figure 10.2b is an illustration of a cooperative, companionship culture. We see that well-cared-for children become adults who create a different type of culture that gets passed to the next generation through their sociobiology.

COMPANIONSHIP VIRTUE

Hunter-gatherer cultures have a broader sense of moral hospitality than moderns. Not only do they tend to have smaller personal egos, they usually have a large "common self" in which they feel connected to and concerned for other forms in nature as part of themselves. For example, traditional indigenous societies (a mix of small-band hunter-gatherers, complex hunter-gatherers, band, tribal, and chiefdom societies)[83] are respectful of the lives of animals, take on the mind of an animal (perhaps as part of a clan totem), concern themselves about its well-being, attend to its presence, and ask permission to take its life.[84] They maintain a sense of the cyclical nature of life and the importance of maintaining balance for the well-being of All.

In Western cultures, confusions about baselines, human nature, and basic needs have been fostered by the separation of human culture from nature.[85] The experiences of most people living in the United States today are apart from nature (on average, individuals spend less than 24 hours a

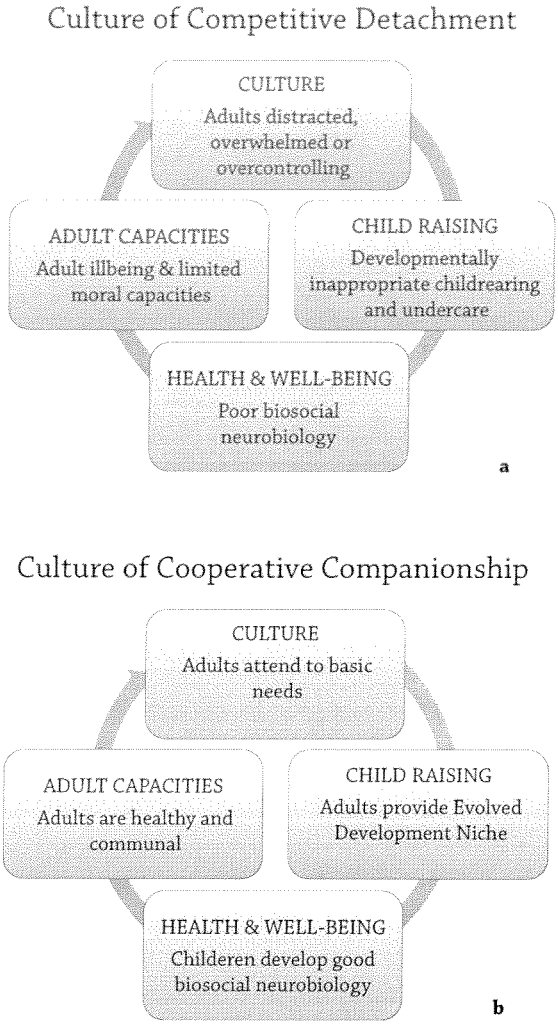

Figure 10.2.
a. Perpetuated Cycles in a Culture of Competitive Detachment and **b.** Cooperative Companionship.

year outdoors), rendering their understanding of human nature and human basic needs minimal. Intuitions about children have been shaped by adults' less than optimal childhoods and by numerous cultural narratives that continue to keep humans unaware of their heritage and promise. In many places in the West, and perhaps elsewhere, children are forced to "be independent"—from parents, nature, animals, their feelings—and as a result form large self-protective egos as compensation. From the extensive frustration of needs for touch, breastmilk, and attunement, they may never feel totally

safe or confident, or, at the other end, take foolish risks that put other lives at stake. After experiencing extensive isolation and despair as infants, they may have nightmares of abandonment and fantasies of dangers lurking in the unfamiliar and the unknown. These may keep them from being able to relax into love and form a sense of commonality with others. Instead, they may brace themselves to survive (fear) or control (anger) events, leading to various clinical and subclinical pathologies. The instincts for a common self are shattered as an excessive ego is born from pain and alienation leading to a "false drive for self-affirmation" and the "having of things" instead of being comfortable with the "unreliable, unsolid, unlasting, unpredictable, dangerous world of relation."[86]

Although an individual may develop—with supportive caregiving and schooling that does not snuff out the spirit—engagement and communal imagination, our heritage of human virtue will be incomplete unless hospitality, care, and commitment are not also extended to the natural world—to all entities (i.e., plants, animals, mountains, streams). Unless a sense of partnership is felt with these other entities, virtue is anthropocentric and does not represent humanity's fullest moral capacities. When humans embrace their mammalian heritage and basic needs, such as intensive parenting and ongoing social support, but they are better able to adopt commonself relations with other animals, plants, and forms. A common-self orientation to the natural world is typical of hunter-gatherer societies, where everything can be a relation or at least a responsibility. This may be our most needed moral "learning." A companionship culture not only involves EDN care for children and EDN support for all humans but also includes the natural world as a companion, as agentic, and as equally worthy of care.

THE IMPORTANCE OF AUTOPOEISIS IN VIRTUE DEVELOPMENT

Optimal moral functioning is about virtue—knowing how to act in the right way at the right time, using one's fullest human capacities—a mindful morality encompassing engagement and communal imagination. Virtue is initially bottom-up socio-moral procedural learning, a type of learning that differs from schoolbook learning, in that it does not emphasize thinking and intellect but, rather, feeling, being, and relating with an increasing actionable know-how for everyday life. Socio-moral procedural learning is similar to other forms of actionable learning in that it takes immersion, guidance, and extensive practice to move from novice to greater expertise.

Importantly, organisms that develop actively participate in their own development. In fact, *autopoiesis*—self-development and self-organization—is

one of humanity's many inheritances.[87] Although a baby has only minimal autopoietic capacities (hence the importance of EDN-consistent care), with age, development, and education, humans increasingly can take charge of their self-development. With increased maturation, self-monitoring skills facilitate virtue development through the selection of activities and focus. Although they will always need mentors and community support for self-authorship, they can choose the environments in which their implicit mind will learn its intuitions.[88] They can draw their attention to things they prefer as first-order desires.[89] Even individuals who missed the early EDN can learn presence and intersubjective intimacy, building a stronger empathic core. And they can learn to curb their autonomy with a growing sense of communal imagination.

CONCLUSION

Culture shapes contexts for early development. Until recently in human genus history, the evolved developmental niche (EDN) was provided universally in human societies, offering a cultural commons for human personality. The evolved developmental niche provides the essentials for developing humanity's fullest moral capacities. Brain and body systems that underlie moral functioning are influenced by caregivers and social experience. In the last one percent of human genus history (the last 10,000 years or so), and especially recently (last few hundred years), humans outside of small-band hunter-gatherers have often forgotten or ignored their evolutionary history as social mammals (yet which they have not evolved away from) as they have dismantled the EDN. Culture has trumped biology and evolution. Western traditions tend to misshape evolved human nature because of young-child undercare. They undermine the development of the Engagement ethic and instead explicitly emphasize emotionally detached Imagination and implicitly promote the Safety ethic. That is, implicit culture is promoted by the types of care we provide children. As a result, when Engagement is not nurtured with EDN-consistent care, the Safety ethic becomes the default implicit moral mindset, putting at risk health and well-being as well as the natural environment. The Safety ethic, conditioned during sensitive developmental periods, subliminally or through stress reactivity, impairs higher order reasoning capacities and compassionate response, keeping a focus on self-preservation. Thus, a degraded early life (lacking the EDN) leads to a diminishment of humanity.

Adults have choices about the cultures they design and the caregiving they provide. Following the evolved developmental niche will provide its

recipients with health and well-being, the foundations for optimal human morality. Although an individual's moral perceptions and action capabilities can be handicapped by prior experience, the individual can author the community and the self toward greater virtue. A companionship culture will further promote mindful morality, the Engagement ethic extended with Imagination into communal imagination.

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