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Ecocentrism: Resetting Baselines for Virtue Development

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Abstract
From a planetary perspective, industrialized humans have become unvirtuous and holistically destructive in comparison to 99% of human genus existence. Why? This paper draws a transdisciplinary explanation. Humans are social mammals who are born particularly immature with a lengthy, decades-long maturational schedule and thus evolved an intensive nest for the young (soothing perinatal experience, responsive care, extensive breastfeeding, multiple responsive caregivers, positive social support, self-directed free play with multi-aged mates in the natural world). Neurosciences show that evolved nest components support normal development at all levels (e.g., neurobiological, social, psychological), laying the foundations for virtue. Nest components are degraded in industrialized societies. Studies and accounts of societies that provide the nest, particularly nomadic foragers, the type of society in which humanity spent 99% of its genus history, indicate a more virtuous human nature than that industrialized societies think is normal or possible. Nest-supported human nature displays Darwin's moral sense whereas unnested individuals show dysregulation and a degraded moral sense—a species-atypical human nature. Original virtue is about flourishing—of self, human community and the more than human community—within all circles of life, based in a deep awareness of humanity's dependence on the rest of nature to survive. The pillars of original virtue include relational attunement (engagement ethic), communal imagination, and respectful partnership with the natural world. All are apparent in human societies that provide the nest to their young, fostering connectedness throughout life. They maintain communal imagination through cultural practices that enhance ecological attachment and receptive intelligence to the natural world.

Keywords Evolved nest · Evolved developmental niche · Original virtue · Moral sense · Nature connection · Communal imagination

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1 Prelude

Foot (2001) reports that Wittgenstein on two occasions when a speaker was trying to repair a compelling or seemingly ridiculous position, spoke up: "Say what you *want* to say. Be *crude* and then we shall get on." (p. 1) The advice was to speak the troubling thought and work out the problematic aspects later. I follow such advice here. All the details are not worked out on the ideas presented, but they are very troubling thoughts that should be discussed by philosophers and psychologists and policymakers alike.

This paper attempts to lay out the ethics that are found in sustainable societies around the world, those that have been around for thousands if not well over a hundred thousand years. The paper calls into question the idea of human progress, moral or otherwise, an implicit assumption in much of western scholarship and culture that among other assumptions, plays a role in the ecological disasters humanity is facing (Christen et al. 2017). For a species over 6 million years old, the last millennia of increasing destruction must be explained. No other species destroys its habitat and that of its fellow creatures. How did this come to be?

In this paper, I extend prior transdisciplinary work regarding baselines for human development and morality (e.g., Narvaez 2014, 2016, 2018a, b; Narvaez and Witherington 2018). Using a natural history and transdisciplinary integration, ethogenetic theory (Narvaez 2018a) identifies what human beings are (a type of social mammal), what human beings need for proper biopsychosocial development (the evolved nest) and the unfoldment of species-typical morality over the life course of an individual (cooperative companionship). Ethogenetic theory also describes how things can go wrong when species-normal supports are not provided. The baseline for species-normal development and functioning is taken from humanity's 99% of existence over millions of years in small-band hunter-gatherer communities. The dearth of virtue in (tested Western) populations has been lamented and assumed to be part of the human condition (Doris 2002; Miller 2016) but a natural history indicates otherwise. Humans are highly immature at birth and have extensive basic needs that must be met for proper biopsychosocial development. Virtue depends on coordination of multiple systems including biological, implicit and explicit cognitive-emotional systems, perceptual and sensible capacities as well as social intelligence. When early life is species atypical, dysregulation in one or more systems results as with any animal, undermining the development and expression of virtue-in-the-moment. To address ethogenesis, we must undertake an interdisciplinary pathway.

2 The Setting

Humanity faces a dire crisis—the self-destruction of its habitat (and the habitat of many other-than-humans) through the four horsemen of the environmental apocalypse (Wilson 1991): (1) massive toxification of water, air, soil, and food chains (Chen et al. 2017; Díaz et al. 2019); (2) degradation of the atmosphere, such as ozone depletion; (3) global warming (e.g., IPCC 2014); and (4) the "death of birth"—the extinction of millions of species (Eisner 1991; Kolbert 2014). Despite warnings for decades from scholars and for centuries from people native to lands where colonizers and industrializers imposed their will, the globe's dominating institutions continue to pump poisons into the ecosphere and to extract value from nature without a sense of limitation or consequence. The human species seems entranced by the technologies that it has developed and the consumerist culture that not only destroys biocultural diversity, but disrupts ecosystems

and promotes "illth" (instead of wealth) (Berry 1999; Korten 2015; Wilson 1991). From the viewpoint of planetary wellbeing, it is contra-evolution for one species to overrun virtually all ecosystems, committing rampant speciescide (Myers 1991). Evolution by natural selection brings about greater and greater diversity and cooperative dynamic complex ecosystems, not less (Darwin 1871; Naess and Rothenberg 1989; Wilson 2017).

Understanding humanity's deep history offers a different perspective from the whig histories of civilization that tout it as a necessary advancement (e.g., Pinker 2011). Humanity's prehistory was spent in small-band hunter-gatherer societies (SBHG), some of which still exist today (Fry 2006; Lee and Daly 2005; Sahlins 1968). These are mobile foragers with few possessions, who have limited wants, spend most of the time in social leisure (Gowdy 1998). They are largely peaceful and cooperative and, without possessions or hierarchy, do not foment war (Fry 2006, 2013). Like migratory animals, they follow the food sources and move on before those sources are overly harvested. Several such societies have been around for over 150,000 years (Lawlor 1991; Suzman 2017). They paint a different picture of humanity's nature and potential and show us it is not the human species per se that drives widespread ecological destruction, but the beliefs and actions of a subset of humanity. Only relatively recently in the existence of the human species—emerging in the last 8000 years or so—have particular cultures moved in the direction of wholesale ecological destruction (Martin 1992, 1999). From the viewpoint of SBHG and other First Nation communities, the morality and virtue of colonizing and industrialized societies are quite degraded, focused on exploitation instead of balanced cooperation with the natural world (Deloria 2006; Four Arrows 2016; Narvaez et al. 2019a). Taking a holistic view that includes ecological systems, instead of moral evolution, civilization has been following moral *devolution* (Christen et al. 2017) in part because cultural stories and scholarship are guided by ghost theories and false stories about humanity's past and potential (Eisler and Fry 2019; Narvaez 2019a). Domineering cultures have forgotten or moved against nature, most critically their own species' developmental systems, undermining the species-typical development of their own evolved human nature, including development of virtue (Narvaez 2014). To understand the shifts, we must start with humanity's species-typical baselines.

3 Baselines for Human Development and Human Nature

Baselines for the development of human nature come from multiple disciplines that include ethology, anthropology, developmental, clinical, evolutionary and neuro-sciences (Narvaez 2014). This kaleidoscope of information helps us focus on what human nature comprises and how it is fostered or undermined.

What is a human being and what do human beings need to grow well? As animals, we need warmth, shelter and nourishment. But we require much more than that. We are social mammals with built-in emotion systems that are conditioned and shaped by early experience (Panksepp 1998; Schore 2019). Like other social mammals we have needs for affection, play and community support that when met, optimize normal development (more below) (Narvaez et al. 2013a). But we also have unique human needs for meaning making and community bonding to help develop and maintain a sense of our place in the world (Fiske 2003). What do humans inherit to address these needs?

According to developmental systems theory, human heritages include many things beyond genes, such as culture and ecology (Jablonka and Lamb 2005; Oyama et al. 2001), but also our

great immaturity at birth and our dynamic, biosocial development in early life (Narvaez 2014). Compared to their closest cousins, other apes, humans enter the world much more immature, with greater malleability at all levels (Gómez- Robles et al. 2015). At full-term birth, infants have 25% of adult brain volume with most of its size scheduled to grow in the first years of life; in fact, human infants look and act like fetuses of other animals until about 18 months of age, making early experience highly influential (Montagu 1968; Trevathan 2011).

One of the most significant inheritances in terms of ethogenesis is the developmental system for raising the young (Gottlieb 1997): "the reliable and repeatable features of stimulation and experience occurring in an organism's developmental context . . . the set of ecological and social circumstances typically inherited by members of a given species . . . reconstructed in each generation . . . [serving] as a primary basis for the development and maintenance of . . . species-typical behavior. (Lickliter and Harshaw 2010, p. 497). Like all animals, humans evolved a nest for the young that matches up with maturational needs. The *evolved nest* (a.k.a., Evolved Developmental Niche, Narvaez 2013; or "hunter-gatherer childhood model," Konner 2005), whose components emerged over 30 million years ago with social mammals. The nest includes soothing perinatal experiences; several years of on-request breastfeeding; responsive care from multiple adult caregivers to keep baby in optimal arousal while the brain is rapidly developing; plenty of affectionate touch; self-directed free play in the natural world with multi-aged mates; and positive social support (Konner 2005). The evolved nest represents the common characteristics provided by small-band hunter-gatherer societies around the world (Hewlett and Lamb 2005). Adults in these societies are calm, generous and cooperative (Ingold 2005; Narvaez 2013, 2017). Thus, experience and epigenetics (experience influencing the expression of genes) may be much more important in human development than are genes.[1]

In early life, nest components actually mold the very plastic but immature neurobiology humans arrive with at birth (Narvaez et al. 2013b). As a dynamic complex system, each person self organizes according to experience, especially early experience (Schore 2019). Initial conditions set the trajectory for subsequent development and function of nearly every psychobiological system, barring later intervention (Greenough et al. 1987). Biological systems shaped by postnatal social experience with caregivers include the stress response (Lupien et al. 2009), neuroendocrinology (Carter and Porges 2013), and the vagus nerve, the tenth cranial nerve that connects to all major body systems (Porges 2011). These three neurobiological systems influence not only health but social relationships. Humans have an extended sensitive developmental period in the first five years of life, with decreasing plasticity as the dynamic system that is a human being follows the trajectory set early on (Cole et al. 1994; Greenough et al. 1987). There are other sensitive periods and as a result, it takes around three decades to build the brain capacities of a human being.[2]

The nest components provide the type of stimulation and support at the right times and in the right ways for rapidly-developing layers of systems, likely buffering almost any

[1] No specific gene corresponds to a particular psychological behavior (Abdolmaleky et al. 2005). Genes are a blueprint that must be activated by experience, often at particular sensitive times. Even the so-called "violence" gene (MAOA) only correlates with violent behavior when the carrier was abused as a child (Kim-Cohen et al. 2006).

[2] Unlike many species, human beings are a resilient species and can still stay alive with minimal care after childhood even when development is suboptimal. But this doesn't mean they will function well. In our ancestral contexts (small-band hunter-gatherer, representing 99% of human genus existence), a poorly-functioning child would not have survived into adulthood due to poor intelligence and lack of cooperative skills.

detrimental genotype, bringing about well-functioning biopsychosocial dynamically shaped within a relational developmental system (Overton 2013). A growing body of research is demonstrating the importance of evolved nest components for proper biopsychosocial development in early life when the brain is rapidly growing and setting parameters and baselines for lifelong functioning (Narvaez 2014; Narvaez et al. 2013b, 2014, 2016a). Here are a few examples. When compared at three months, *breastfed* infants show greater brain myelination than formula-fed infants (Deoni et al. 2013), whereas *no* breastfeeding in the first week of life promotes depression, withdrawal and abnormal reflexes (Hart et al. 2003). Caregiver *affectionate touch* diminishes cortisol release, a killer of immune cells and neurons at high levels (Field and Hernandez-Reif 2013), and properly establishes the oxytocin system which integral to attachment and social interaction (e.g., Feldman et al. 2010). During an early sensitive period, touch establishes appropriate expression of genes related to controlling the stress response for the rest of life, barring drug use (Meaney 2001). *Social play* promotes growth in the orbitofrontal cortex and its connections to other parts of the brain, facilitating social decision making (Pellis and Pellis 2009). The nest keeps the child bathed in appropriate biochemistry that optimizes growth in all systems. *Responsive care* (which includes touch, play and positive support) facilitates the myelination of a baby's vagus nerve (the tenth cranial nerve connected to all major systems of the body), fostering health and social capacities (Porges 2011). Neurobiological systems are built up layer by layer during sensitive periods of development, whose lack may not be noticed until later-developing systems miss an expected foundation (Knudsen 2004). Boys need much more and longer nurturing because they mature more slowly and lack the built-in resilience that girls have, or else various mental disorders can ensue (Schore 2017).

The foundations for psychosocial systems are shaped by early nurturing care (Schore 2019). The primary caregiver's responsive relationship with the infant establishes brain functions and social foundations, including secure attachment. Schore (2019) describes how secure attachment develops:

> "Secure attachment thus depends on the mother's psychobiological attunement not with the infant's cognition or behavior, but rather with the infant's dynamic alterations of autonomic arousal, the energetic dimension of the child's affective state. To enter into this rapid communication, the mother must resonate with the dynamic crescendos and decrescendos of the infant's bodily-based internal states of peripheral autonomic nervous system (ANS) arousal and central nervous system (CNS) arousal). This autonomic activity occurs at an unconscious level. …the psychobiologically attuned mother of the securely attached child not only minimizes the infant's negative states in comforting transactions but also maximizes his or her positive affective states in interactive play. Regulated and synchronized affective interactions with familiar, predictable primary caregiver create not only a sense of safety but also a positively charged curiosity, wonder, and surprise that fuels the burgeoning self's exploration of novel socioemotional and physical environments. This ability is a marker of adaptive infant mental health." (p. 10).

Schore goes on to explain the dynamic and hierarchy arranged development of many brain areas through caregiver-child interaction, most of which in the early years occur in the right hemisphere, the seat of socioemotional intelligence (Hetcht 2014). "During early critical periods, affective attachment transactions shape the cortical-subcortical emotion- and stress-regulating circuits of the developing right brain" (Schore 2019 p. 39). These interactively-

regulated secure attachment experiences are imprinted in implicit-procedural memory as self and social strategies for affect regulation. These strategies subsequently guide "the ability to flexibly regulate psychobiological states of emotions with other humans in interconnected contexts" as well as autoregulate in autonomous contexts (ibid). Thus, Schore's extensive review indicates that when early care is not supportive, insecure attachment develops, resulting in self and social dysregulation. Longitudinal studies show that children with insecure attachment are less socially skilled and cooperative (Sroufe et al. 2008).

It is obvious from the review of our baselines and the importance of early life experience for shaping the nature of a person that many human societies have moved away from species-typical development. For example, in the USA, most mothers work and early childcare continues to be substandard by any measure (Belsky 2001); little of the nest is provided (Kurth and Narvaez 2018); and child and adult illbeing have been increasing (e.g., National Research Council 2013; UNICEF 2013).

4 Virtue and Ethogenesis

Ancient philosophers who mentioned virtue development identified the importance of the social environment. Aristotle (1988) noted that one must be mentored in selecting activities and friendships until one can mentor oneself, seemingly around age 30, but did not say much of anything about child development. The ancient Chinese philosopher Mencius (1998) said that to learn virtue one must be nurtured in the right environment (and not be injured) (Book VI-a). Mencius identified three prerequisites for virtue development: "an environment that meets people's basic physical needs, ethical education, and individual effort" (Van Norden 2017). These scholars had no way of explaining the mechanisms of virtue development as we are able to attempt today (Narvaez 2014, 2019b).

Human virtue is layered on neurobiological function.[3] That is, if one's neurobiology is misdeveloped (e.g., stress response system), it is hard to be virtuous. In Aristotelian terms, one instead is likely to be continent, incontinent or worse, vicious. The coordination of desires, motivations and self-control of explicit and implicit systems, necessary for virtuous behavior, may be missing. Here are some examples.

The initial foundations for self-control are multiple self-regulatory systems that are established from early life experience. Physiological regulation includes the control of stress response mechanisms such as hormonal release and heart rate. For example, if one's *stress response* habitually kicks in from an easily-activated sense of threat (shaped by unresponsive early care), blood flow shifts away from the cortex to mobilizing muscles for self-protection and it will be more difficult to think well, be open minded or open hearted (Arnsten 2009). Emotion regulation comprises abilities to monitor and modify intensity and duration of emotional reactions, requiring a well-functioning *vagus nerve* to engage the more adaptive response of social engagement instead of aggression or withdrawal (Porges 2011). Behavior regulation involves impulse control and other forms of *executive function*, which are initiated in early life (Schore 2019). Social self-regulation involves the ability to get along with others in flexible ways, which as noted above, relies on the experiences leading to secure attachment. When early care is inconsistent, neglectful or threatening, one will be more likely to distrust others and react with withdrawal or opposition (Narvaez 2014). Poor self-regulation uses up

[3] Attachment measures are signals of multiple neurobiological functions. The latter will be the focus.

energy leading to impulsive behavior (Niehoff 1999), pushes one towards personal distress, and mobilizes oneself for defensiveness (Porges 2011), thwarting virtue behavior.

Charles Darwin (1871) identified what he called the *moral sense*, whose components evolved through the tree of life and join together in humans. The moral sense includes not only self-control mechanisms, but also empathy, social pleasure, and concern for the opinion of others. Darwin noted the proliferation of the moral sense in "primitive" societies (where the evolved nest was no doubt provided), but found it weak or absent in his own (British) society (with a degraded evolved nest; Turnbull 1984). The moral sense may be largely shaped after birth. *Empathy* in the fullest sense (emotion, cognition, behavior) requires well-functioning neurobiology. *Social pleasure* and *concern for the opinion of others* emerge from consistently warm responsive care and secure attachment (Bowlby 1988; Kochanska 2002).

All these—self-regulation, empathy, social pleasure, concern for the opinion of others—reflect "social fittedness," which Aristotle identified as an underlying foundation for developing virtue (Nussbaum 1988). As noted above, these components are shaped largely by the primary caregiver-child relationship, including secure attachment, within the context of the nest. A nested child learns to "move with" others and natural processes, through an embodied "communicative musicality" (Trevarthen 1999), coordinating "vitality contours" within relational encounters, exhibiting a smoothly functioning neurobiology and sociality (Stern 1999). These are foundational for virtue.

My lab's empirically examines whether or not and how the evolved nest (evolved developmental niche; EDN) matters for the development of human biopsychosocial wellbeing and morality (e.g., Narvaez 2013, 2014, 2016; Narvaez et al. 2013a, c, 2019b). Here are a few sample findings. In a cross-sectional sample of children at age three years of life, *breastfeeding* length correlated with the development of children's impulse control and conscience (guilt and concern after wrongdoing) (Narvaez et al. 2013a). In a cross-sectional, three-nation international study, maternal report of EDN provision in the past week (self-directed *play* inside/outside, affectionate *touch*, no corporal punishment, family *togetherness* inside/outside the home) was related to multiple young child (3–5 year-olds) outcomes, including child social attunement and consideration of others, even after controlling for parental income, age, education, responsiveness, and child gender (Narvaez et al. 2019b). Child nest experience at 12 months predicted vagus nerve function at age 6 (Narvaez, Tarsha, Gleason, Cheng and Kurth 2020). Using a similar measure of evolved nest experience, surveyed adults who reported higher levels of EDN-consistent care in childhood also reported greater secure attachment, mental health, perspective taking and relational instead of self-protectionist morality (Narvaez et al. 2016b).

5 Original Virtue

The evolved nest in childhood is presumed to initiate a species-typical manner of growing virtue through a bottom-up shaping of prosocial automaticity at multiple levels—neurobiological, emotional, psychological—supporting the development and integration of well-educated intuitions, emotions, motivation and intellect. We might call the evolved nest the fertile soil for "original virtue," or species-typical moral development. It provides the nurturing environment, more common in the past than today, that perhaps Mencius and Aristotle took for granted.

Studying "original virtue" among those who provide the evolved nest offers a very different idea about humanity's promise and potential (for reviews of anthropological studies and first

contact reports, see Lee and Daly 2005; Narvaez 2013, 2014). Here is a brief summary. The capacities demonstrated by adults in societies that provide the nest include relational attunement to others in the moment—a combination of mutual, egalitarian responsiveness, holistic synchrony, behaviors rooted in empathy and perspective taking shaped in early life. When guiding behavior, this species-normal orientation becomes an *engagement ethic* and virtue obtains from the ongoing coordination of neurobiology, subconscious and conscious systems towards harmonious cooperation, fitting with the views of Mencius. As capacities for abstract thinking and imagining possibilities develop throughout childhood, they build on the engagement ethic forming a *communal imagination* where action possibilities take into account responsibilities to the welfare of the community. However, communal imagination must be fed and guided continuously. Virtue is not just about getting along with people, but involves treating the rest of nature with respectful responsibility. This is ecocentric virtue.

6 Ecocentric Virtue

Ecocentric virtue is a human heritage. Humans evolved to have deep sensory connection and awareness of the natural world (Shepard 1998). Robert Redfield (1953, 1956) distinguished two worldviews. The more recent view, common in civilized nations, considers the universe to be disenchanted, fragmented and amoral. The oldest worldview (called Indigenous today) conceives an enchanted, connected and moral universe. Indeed, peoples who live immersed in nature have complex impressions of a dynamic natural world. From deep observation, they understand for example, the signals of mosses, animal behavior and are able to recognize tree species by the sounds the wind makes in their leaves (Cajete 2000; Kimmerer 2012). The Americas were a paradise when first encountered by European explorers (Sale 1990; Turner 1994). Their diaries report wildlife so abundant it was hard to navigate rivers which were filled with otters and salmon; one could pluck a bird from the billions in the air. Explorers noted symphonies of sound, fragrance, color, animal life. Native peoples lived comfortably with an abundance of animal neighbors, including predators, to the astonishment of missionaries and other reporters (Spencer 2018). Like First Nation peoples around the world today, the attitude towards the natural world is one of cooperative partnership in maintaining the health of the biocommunity to meet the needs of all (Descola 2013).

Original virtue is embedded in the orientations of "native science" which accounts for the dynamic, fluctuating personal nature of the world (before the attention of the industrialized world was brought to this view by the field of quantum mechanics): "The knower and the known are indissolubly linked and changed in a fundamental way. Indigenous science…is a dynamic and living process, an aspect of the ever-changing, every-renewing processes of nature" (Peat 2001, p. 6). "The Native American paradigm is comprised of and includes ideas of constant motion and flux, existence consisting of energy waves, interrelationships, all things being animate, space/place, renewal, and all things being imbued with spirit" (Little Bear 2000, p. x). In fact, those who live close to the earth describe how they "hear" the acoustic signatures of the place and its entities, and these guide their song and myth making as a form of participation in co-creating the sentient space (e.g., Martin 1999). Nature communicates and community members orient to receiving its wisdom through dreams, visions, trance states and insights. Thus, a third pillar of original virtue is the *receptive intelligence* that nature nestedness fosters (Narvaez 2014). This kind of receptive intelligence is known the world over in First Nation societies, but is ridiculed by the eco-illiterate of industrialized nations.

First Nation societies of the Americas, as sustainable societies elsewhere, perform practices that foster connection and respect (Ross 2006). There is awareness of the need for maintaining connection with nature and others through group rituals and trance in order to let go of hurts and to sustain a sense of humility and gratitude (Katz et al. 1997; Ross 2006). Outside of right relationships, human beings can become imbalanced and so must attend to maintaining harmony and balance through group activities (WindEagle and RainbowHawk 2003). Virtue and communal morality are nourished with stories and narratives of dependence on the more than human who are treated as sentient beings with their own purpose and personhood. Community rituals and group practices shape attention and perception, as individuals are obliged to *perceive* interconnection to others, including other-than-humans, and are expected to dedicate self to *connecting* in caring and respectful ways in every moment. Communal practices of touch, play, and gratitude keep one in "moral moods" (relationally attuned). Lifelong nurturing of capacities for self-command and social cooperation are part of the holistic nested life that emphasizes heartmindedness and connectedness to the Whole. Rituals allow tuning into oceanic energies, discerning appropriate actions to promote biocommunity harmony. Mencius (1998; Yearley 1990) taught that virtue is actualized when a person learns to extend feelings and knowledge from clear to unclear situations through attention and intelligent awareness. The community practices of First Nations of the Americas support such an approach, traditionally using group decision making, which takes a great deal of time but allows for moral imagination to be fully vetted among group members before a consensus is reached and action taken (Ross 2006).

Thus, concern with virtue and its development did not start with ancient philosophers. For millennia, these have been major concerns among First Nation communities, societies where individuals are expected to be on a continual path of self improvement (Deloria 2006; Four Arrows 2016; Ross 2006). Living a life of virtue is integrated with survival and biocommunity thriving while uniquely connected to the needs of the local landscape. The nest provides the grounding for the ability to perceive and respond to the dynamism of living systems.

7 The Move to Anthropocentric Virtue

Even before the ecological Armageddon underway, moral theory has often stayed away from discussing very deeply responsibilities to the natural world, perhaps addressing the rights of animals but not much more. Most virtue theories assume hierarchies, with humans (or particular humans) at the top of a pyramid of moral advantages and moral responsibility. But among humans, who evolved to be fiercely egalitarian (Boehm 1999), rigid hierarchy is a recent invention of particular societies, known as civilization, appearing only among some groups in the last 1% of human genus existence.[4] Indeed, civilization and industrialization have had continual battles trying to coerce individuals into abnegating their personal autonomy and submitting to obeying authority (Zerzan 2018).

As people moved into human built environments and away from immersed experience in healthy forests, mountains and waterways, their senses were increasingly dulled and their skills to get along with a diverse natural world atrophied (Martin 1992, 1999; Merchant 2003). The other than human became aversive, unless controlled like pets or houseplants. With

[4] Civilizations came and went starting in the last 10,000 years or so. The human species has been around for about 6 million years, and the genus homo for about 2 million (Fuentes 2009).

advancements in technologies, nature disconnection—the forgetting of our origins and our sensory potential—has become increasingly widespread; and now, ecological detachment and nature deficit disorder are commonplace (Louv 2005).

One can point to the broken or degraded nest as the initiating source of many of humanity's problems. When communities do not provide the nest, the continuum of species-normal lifecourse development within a living world is broken, and we should not be surprised if psychopathology results. According to the theory proposed here, because desire for the nest components is innate, the unnested child will necessarily carry a sense of scarcity, of deep need, feeling the world is fundamentally unsafe—priming the individual for a self-protectionist orientation to life (Narvaez 2014). Basic anxiety will haunt the individual who seeks to fill the emptiness with various addictions—e.g., work, drugs, attention, power over others. Self-aggrandizing ideologies will be attractive for a suffering individual. Life will be set up for living viciously rather than virtuously. The USA appears to be filled with such individuals, so one should not be surprised that virtue is hard to find (Derber 2013).

Anthropocentrically focused, the IPBES report (Davis et al. 2019) notes that humanity's current practices are eroding the very foundations of human economies, food security, livelihoods, health and quality of life all over the planet. We can surmise that unnested humans are behind these disasters. Grown to be anthropocentrically self-protectionist and disconnected, they are unable to pay attention to the right things, unable to perceive the deeply interconnected web of life. Unnested individuals have been making decisions within countries and institutions that impose their will on the world (e.g., World Bank, International Monetary Fund, USA military-industrial complex). Such individuals typically hold a vicious (exploitative) ethical orientation, driven by notions of white (male) European supremacism, the superiority of industrialized civilization. Or, they make decisions with intellectualized detachment, focused on imposing their superior ideals while lacking ecological intelligence, ideals that devalue biocultural diversity, ignoring the uniqueness of each individual and landscape (Easterly 2007). Western psychological theory and practice has fallen into similar orientations as it colonizes the industrialized world with its species-atypical ideals of individualism, materialism, and relational detachment, focusing on making people adjust to the inhumane cultures of the modern world (Katz 2017; Kidner 2001; Narvaez and Witherington 2018); and it still psychologically colonizes the rest of the world. Thus, the structures and ways of thinking that brought us to the current ecological crises will not be able to remedy the situation.

It is not clear that civilized virtue theory can address these problems either, as it is most often disconnected from nature also. Civilized virtue theory has failed to address components that would help and are apparent in indigenous virtue: nested child raising, nested adults, respectful partnerships with natural systems. This paper is a challenge to reset baselines.

8 Moving Back to Ecocentric Virtue

What can be done to shift back to original, ecocentric virtue? Understanding humanity's past (and alternative present) is one place to start (see also section on Original Virtue). There are many places on the earth where human societies have lived sustainably for tens of thousands of years (Amel et al. 2017; Lawlor 1991; Suzman 2017). In fact, Indigenous (First Nation) lands (perhaps 20% of earth's land mass) preserve 80% of the planet's biodiversity (Díaz et al. 2019). Deepening our sense of humanity's existence beyond the writings of civilization can

help expand our imaginations for what is possible (Narvaez 2019a; Small 2008). In fact, prior to imperialism and colonialism and other domineering practices, people around the world lived on common lands cooperatively with one another and with the more than human,; treating the local landscape with humility and respect was part of living well (Bollier 2014; Descola 2013; Merchant 2003; Narvaez 2019a; Nelson 2008). Scholars of history and culture can investigate more thoroughly the durable lifestyles and practices of the non-civilized.

Second, human societies are able to shift in sociopolitical forms as needed. Graeber and Wengrow (2018) note that new archeological findings are indicating that societies from our past did not move in a linear fashion from egalitarian to hierarchical lifestyles, as is so often assumed. Instead, some societies shifted structures based on the season or time of year. For example, in the nineteenth century, American tribal confederacies on the Great Plains would congregate for the annual buffalo hunt. They set up a police force to ensure the proceedings went well. Afterward they returned to their small bands and anarchic way of living. Indications are that similar routine shifts in social arrangements occurred in other groups around the world. Graeber and Wengrow point out that this kind of ability to shift sociopolitical forms gives us hope that we too can be flexible and move to egalitarianism once more. Scholars of history and sociopolitical theory can spell out the alternatives seen in our past.

Third, we must address the initial source of worldview, sense of self and self-control: the family. Graeber and Wengrow (2018) identify the family as the real challenge and root of inequality, the place where gender treatment and opportunity vary in many societies (though not in partnership societies, like SBHG; Eisler and Fry 2019). The lack of evolved nest provision may be the initiating source for the inequality that plagues most civilizations. But this too can be changed. Among small-band hunter-gatherers, child raising is a cooperative venture, with young children spending over half their time with allomothers, usually fathers or grandmothers (Hewlett and Lamb 2005; Hrdy 2009; Morelli et al. 2014). Collaborative research among scholars can help describe a nested, partnership approach to parenting (Eisler and Fry 2019; Tarsha and Narvaez 2019) and study systematically its effects.

Fourth, social institutional policies and practices deserve change. Reviving ecocentric virtue development may require provisioning the nest to our children as a matter of justice. Elsewhere I describe a Baby Bill of Rights (to be accompanied by a mother bill of rights) that lists the components and subcomponents of the nest as basic human rights (Narvaez 2018a, b). In order to transform society towards providing the nest, the wellbeing of children, families take priority. Policies can provide for extensive paid family leave, babies to work, and multi-generational housing so that extended families can coexist with parents and children. Child-centered, individualized, developmental schooling, like RIE (Hammond 2019), Reggio Emilia and Montessori should be offered to all children. Whole-body, self-directed social play can be a primary activity of children at home and at school.

Fifth, education and interventions are needed. Everyone in the community might be educated about child development and humanity's basic needs and receive guided experience with young children. Parents with insecure attachment or traumatic childhoods may need healing in order to be able to provide the synchronized responsiveness a young child needs to grow well, as therapists have noted Hughes and Baylin 2015). Intervention and educational sciences can help delineate the best ways to approach families and communities (e.g., Shanker 2017).

Sixth, restoring ecocentric virtue entails fostering not only knowledge and wisdom about how to live well within the local biocommunity, but local ecological attachment. After decades of using logic and reason to argue for the need to attend to the land, Wendell Berry (2013)

concluded that "it all turns on affection," that without a *love* of nature, specifically, love for one's local landscape, ecological destruction will continue. Thus, from an early age, children need the freedom to explore, learn and attach to their local landscape, experiencing nature in its complexity, fostering the receptive intelligence that is part of our species heritage. Forest kindergartens provide the grounding children need. Guiding students in promoting the health of the local landscape and feeling connected to and responsible for its wellbeing can be part of schoolwork. For example, students in my courses have planted native plant gardens on our college campus. In an intervention experiment over three weeks, in comparison to a control group focused on conservation, college students increased ecological attachment and mindfulness with daily practices of attention to natural entities (Kurth et al. 2020). Further, decisions about local landscapes need to be in the hands of those who rely on their wellbeing (Bollier 2014).

Finally, humanity can transform its way of being. The IPBES report (Davis et al. 2019) contends that in every world neighborhood, 'transformative changes' are needed to restore and protect nature. Greta Thornburg, young people and Extinction Rebellion are leading efforts to change systems around the world. But the IPBES report also notes the need to attend to indigenous ways of knowing and being, longstanding manners of sustainable being and living, a view drawing more scientific agreement (e.g., Amel et al. 2017). Returning to a partnership instead of a domination orientation to the rest of the natural world requires us to listen to the wisdom long held by First Nation societies: humanity belongs to the earth rather than the other way around and human wellbeing depends on the earth's wellbeing. Evolved nest provision may be a vital component of transformation, laying the foundations for ecocentric virtue development.

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