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The Evolved Nest, Virtue and Vice

Darcia Narvaez

The Setting

There are over 7.5 billion people on the earth. Some people take it as a sign of evolutionary success. But imagine if at the next birthday party you attend, the tallest person took everything --all the cake, punch and presents for himself. It would not be much of a party. Similarly, when one species takes over a biocommunity for itself, it's not much of a community. This is what the dominant industrialized capitalist culture has done on the earth. This dominant culture is behaving like a weed species. Weed species appear for a while but they disappear when a more cooperative species comes along that fosters the wellbeing of the biocommunity (Naess & Rothenberg, 1989). The dominant human culture has won the species race, its apparent aim with its propaganda of human separation from and superiority to Nature (Moore, 2016). Only there is no race. And it has been lost.

But isn't the whole goal of evolution to proliferate? No. Evolution brings about greater and greater *diversity* of species, not more of one species. "Endless forms most beautiful" (Darwin, 1871). Diversity is critical for the flourishing of an ecological community, with each species having its niche within that community. Darwin's (1859) theory of natural selection describes how new species evolve and diverge. The theory does not discuss how a plethora of species get along day to day. Getting along requires a balanced cooperation within narrow parameters. Too much imbalance is abnormal and problematic. For example, there are trillions of microorganisms in your body that keep you alive. When a particular bacterium proliferates in your body, you get sick and you can die due to that imbalance. Imbalance in a biocommunity is a problem.

Isn't evolution about competition? No. Evolution is largely about conservation of prior adaptations from one generation to the next. Most things we inherit do not change from generation to generation. Human bodies are made up of adaptations hundreds of millions of years old (like the spine) and each human body is a community of cooperation carrying 90-99% of non-human genes of those trillions of microorganisms keeping it alive (Dunn, 2011). But today genetic competition seems like an inadequate marker of "success," as humans are overwhelming the planet's biocommunities, throwing everything out of balance, and destroying the diversity that has been the outcome of evolutionary processes.

Biocommunity balance within certain parameters is "normal." On a day to day basis, the natural world evolved to be deeply mutualistic and cooperative (Margulis, 1998). Birds warn other species of predators. Animals share water holes with their predators (when the predators are not hungry). Forests have community-oriented trees who share nutrients (Wohlleben, 2016). Older ("mother") trees feed the young of other plant species nearby through their root systems (ibid).

Don't genes predict human behavior? No. Generally, the emphasis on genes is misleading for psychology (Joseph, 2013). Important distinctions must be made. *Functional* adaptation (or "experience-adaptive programming;" Marshall & Kenney, 2009)within a lifetime is not the same as *evolutionary* adaptation (in the genetic fitness sense) (Narvaez, Gettler, Hastings, Braungart-Rieker & Miller-Graff, 2016). A circus elephant adapts to learning tricks to entertain the audience so that he gets fed and not further abused, but this is not evolutionary adaptation. A child who learns to be insecurely attached from growing up with emotionally distant caregivers is functionally adaptive, as a need to form some kind of attachment appears innate, but this is not *evolutionarily* adaptive. A child having a baby at 9 years old does not represent an evolutionary phenotype but shows signs of an environment gone awry—most notably an environment poisoned by heavy metals or endocrine disruptors like plastics (Özen & Darcan, 2011). Evolutionary adaptation is visible only retrospectively from a distance because an individual must outcompete rivals over multiple generations (which takes the survival, thriving and reproduction of multiple generations) (Lewontin, 2010).

One must distinguish between robustness and plasticity, though they are complementary and difficult to separate (Batson & Gluckman, 2011). Robustness refers to how members of a species grow and develop in much the same way regardless of the environment. For humans it means that physically, a child learns to walk, talk, grow taller and so forth. Plasticity refers to the malleability, especially during early development, as the environment shapes the direction of growth (i.e., children who are malnourished do not grow as tall). But the

effects of undercare go much deeper, beyond the physical visible traits to neurobiological structures like neurotransmitter function and number, stress and immune functions. Humans are particularly immature at birth and particularly plastic in early life (Gómez-Robles, Hopkins, Schapiro & Sherwood, 2015), not only physiologically but in terms of psychology and sociality which, I suggest in my work, ground morality and virtue. Insecure attachment places the individual in a different trajectory, canalizing less fitted social behaviour and diminished cooperation (Atzil, Gao, Fradkin & Barrett, 2018), as sensitive periods pass (Knudsen 2004), based on unmet experience expectancies (Greenough, Black & Wallace, 1987).

One other thing about the focus on genes. Few physical disorders and nearly no psychological disorders are predicted exclusively by single genes or even networks of genes (Carey, 2011). The lack of a main effect of genes with the finding that all psychological outcomes are the result of interactions is called the 'gloomy prospect' by behavior geneticists (Turkheimer, 2000), a field whose credentials have been challenged from lack of generalizability and replicability (Ho, 2010). It turns out that epigenetics, the effect of experience on genetic expression, is the big story, especially for humans (zhang & Meaney, 2010).

Why bring up evolution, genes and gene-centered theories? Because they are often used to fatalistically argue that the way things are now are as they should be, as they evolved to be (a naturalistic fallacy if there ever was one!) All sorts of rationales are created to justify things as they are. This is a sign of shifted baselines for what is considered normal.

Why am I bringing these things up in the context of a discussion of virtue and vice? Because signs all around indicate that we have created vicious societies and a vicious human nature. *Created*, not inherited. We have fostered people unable to fit into the biocommunity as fellow members and then rationalized the disordered result with anthropocentric fatalistic theories like selfish-gene theory. Here we are today with half of all species identified 50 years ago extinct in the intervening years due to human activity (World Wildlife Fund, 2014). Earth systems are breaking down. Climate instability is the new normal as the polar ice caps melt (IPCC, 2013). Massive ecological disruption from human activity occurs virtually everywhere on the planet (Díaz et al., 2019; Millennium Ecosystem Assessment, 2005). Massive poisoning of soil, air, water, animal bodies increases by the day. Blood in baby umbilical cords has dozens of pollutants (Houlihan, Kropp, Wiles, Gray & Campbell, 2014). While economic wealth has burgeoned, social and ecological health are sacrificed in exchange (Korten, 2015). For example, the health and wellbeing of citizens in the wealthiest nation on the earth (USA) is on the decline, with mental illness increasing (in real numbers) (USDHHS, 1999), citizens under age 50 at a health disadvantage compared to 16 other advanced nations (NRC, 2013), and lifespans shrinking (Xu, Murphy, Kochanek, & Arias, 2016).

Moreover, it is often assumed that human nature is something we are born with. Gene-centric evolutionary theorists typically assume that "selfish" genes make humans "naturally" selfish (Dawkins, 1976). But there are other evolutionary theories. Evolutionary systems theory notes a rich set of inheritances beyond genes, such as culture, ecology, self-organization and the developmental system or nest (Oyama, Griffiths & Gray, 2001). These too influence the type of nature an individual and culture exhibit.

The Diagnosis

What has gone wrong? To begin to answer this question we must understand what kind of animal we are and what brings about our flourishing. Ethology shows us the importance of attachment and the types of neurobiological structures, along with secure attachment, that nurturing parenting promotes (Eibl-Eibesfeldt, 1989). Attachment represents an "internal working model" that is not only conceptual but an engraving on the neurobiology of the body (van der Kolk, 2014). It helps to understand how we are different from other hominids. We have greater immaturity at birth (only 25% of the adult-sized brain developed; we should be in the womb another 18 months in terms of, for example, bone development) and we have the longest maturational schedule (Dettwyler, 1997; Montagu, 1968; Trevathan, 2011). As a result, many physiological and psychosocial systems develop postnatally, dynamically in response to experience.

As noted, when developmental psychology's use of genetic theory fails to make the distinction between functional and evolutionary adaptation it also confuses species-*typical* developmental systems with those that are species *atypical* (based on an evolutionary timeline). The baseline for child development and the inherited developmental system have been lacking. So, whereas attachment security scores are signals of whether things are going well enough for the child's psychobiosocial development, they don't take into account species-typical and atypical developmental systems. In our ancestral environment, insecure attachment would have been a death knell as its comorbity is social impairment and distorted social- and self-cognition. Highly dependent on

interpersonal cooperation, our ancestral context did not have the extra infrastructures for keeping uncooperative people alive as we have today. [1]

The range for developmental outcomes is narrowed in civilized societies that do not provide the evolved developmental system. Thus attachment researchers, assessing individuals who are not provided our species typical developmental system, fail to measure optimal development. The securely attached person appears soothable, able to deactivate defensive emotions and behaviors as well as "seeking, doing, achieving and acquiring" (P. Gilbert, 2005, p. 28). However, as Colwyn Trevarthen (2005) points out, *warmth* attachment—which is what attachment measures assess—is less adequate than *companionship* attachment, which aligns better with species-typicality. Companionship attachment requires experiences of playing "together-with" multiple responsive caregivers, sharing intentions, interests, and affective appraisals. Many capacities are shaped preverbally (Stern, 2010), as noted by anthropologists of the "preconquest consciousness" (Sorenson, 1998). Such care fosters a child's active curiosity, a confident self-consciousness and the ability to take on independent acting and thinking. Allan Schore (2019) concurs with the significance of these early relationships: "Regulated and synchronized affective interactions with familiar, predictable primary caregivers 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). Secure attachment assessments collapse this more optimal type of attachmentwith warmth attachment, perhaps assessing only the ground floor for development, not the capacities of optimal species-typical development.

You might wonder how we tell exactly what young children need to optimize normal development. Actually, it is not difficult but takes some interdisciplinary investigation. As animals, humans need warmth, nourishment, and protection. As mammals, we have needs for extensive affection, breastfeeding, and self-directed play (Panksepp, 1998). As social mammals, we need extensive bonding and community support (Hrdy, 2009). As human beings, our development and functioning are optimized from intersubjectivity with multiple responsive others, immersion in communal rituals and cultural narratives, and apprenticeship in life activities (Trevarthen, 2005; Shepard, 1998). All these comprise an extensive needs list for an animal that matures slowly and is biosocially shaped.

Like all animals, humans have a nest for their young that matches up with maturational needs. It was first named the "hunter-gatherer childhood model" from identifying the common characteristics of child raising among hunter-gatherers worldwide, most of which emerged over 30 million years ago with the social mammals (Konner, 2005). Humanity's evolved developmental niche (EDN) is much more intensive and lengthy than for any other animal. Humans are more sensitive to experience than other animals because their postnatal experience epigenetically influences neurobiological development more so than for their hominid cousins (Gómez-Robles, Hopkins, Schapiro & Sherwood, 2015). The EDN[2] includes soothing birth, extensive breastfeeding, responsive care, plenty of affection (and no punishment), multiple adult responsive caregivers, free play and positive social support. When these are not provided, it represents a broken continuum of support and we should not be surprised that various forms of dysregulation result that promote weakness of the will or what looks like vice (Niehoff, 1999). Just as a dog's temperament is influenced by the mothering received in early life (Foyer, Wilsson & Jensen, 2016), so too is human temperament and much more so because of vast immaturity and scheduled postnatal growth (Schore, 2003).

How can we say that there is a typical niche when there is so much variability today? Those who condone cultural variability for child wellbeing are not looking at critical features. For example, Levine (Levine et al., 2004) assumed that talking to one's baby was vital for child wellbeing. But in comparing Gusii mothers with Boston mothers, he found little talking among the Gusii. He was surprised to find out that in adolescence the Gusii children were thriving. He failed to notice the nonverbal sensorially-rich, responsive, affectionate care the Gusii children received throughout life. He failed to attend to the evolved nest of care that young children in particular need, which centers more on nonverbal communication, affectionate carrying and movement, rather than on talking (Hewlett & Lamb, 2005). Lancy (2015) too has glossed over the earliest experiences of young children, endorsing the view that any parenting will do. These researchers fail to notice the common practices that anthropological observations have made for baby care and that we in my lab are now beginning to study. Just because in the last 10,000 years or so (1% of human genus existence) the evolved nest has become

[1] For contestation of the claim that secure attachment is species-typical, see for example Schaubroeck, in this volume REF.
[2] AKA: hunter-gatherer childhood model (Konner, 2005); evolved developmental niche (Narvaez, 2014; Narvaez, Gleason et al., 2013; Narvaez, Wang et al., 2013; Narvaez, Woodbury et al., 2019)

degraded in civilized, then industrialized, nations does not mean species typicality has shifted. The nest is still provided in societies around the world, as it was for 99% of human genus history.[3]

Neurobiological studies demonstrate the effects of evolved nest components on human functioning and disposition. Here are a few examples of a growing literature. Skin-to-skin contact at birth facilitates the release of oxytocin in mother and infant, reducing childbirth stress (Bystrova, Widstrom, Matthiesen et al., 2003). When caregivers are warm and responsive to needs, a baby's vagus nerve will become myelinated influencing health and social capacities (Porges, 2011). Harry Harlow (1958) studied the effects of maternal touch deprivation on mammalian brains (monkeys), finding longlasting effects on self-regulation and sociality. Further studies in humans indicate that maternal touch decreases cortisol release, which benefits the immune system as cortisol kills immune cells (Field & Hernandez-Reif, 2013). A lack of breastfeeding in the first week of life is related to greater depression and withdrawal as well as abnormal reflexes (Hart, Bylan, Carroll, Musick & Lampe, 2003) and at three months, *breastfed* infants show greater myelination than formula-fed infants (Deoni et al., 2013). Allomothers are critical supports for mother's attention to her child (Hrdy, 2009). Play fosters the growth in the orbitofrontal cortex and its linkages to other parts of the brain which take a large role in decision-making (Pellis & Pellis, 2007).

Although animal studies show the importance of each EDN component for normal development and sociality, neuroscientific and developmental psychological studies of humans are also accruing evidence (Atzil et al. , 2018). Most studies focus on maternal responsiveness, a combination of comforting behaviors (calming touch) and honest communicative behaviour that leads to secure attachment (Crittenden, 1995; Easterbrooks & Goldberg, 1990). For example, keeping mother and child together after birth leads to greater self-regulation a year later (Bystrova et al., 2009). A mutually-responsive relationship between mother and child leads to secure attachment and greater capacities for prosocial and cooperative behavior (Eisenberg, 1995; Kochanska, 2002; Zahn-Waxler & Radke-Yarrow, 1990). Touch experience influences genetic expression and development of various systems such as oxytocin and vasopression which are related to social bonding (Ardiel & Rankin, 2010; Carter & Porges, 2013) and spanking increases soclal aggression over the long term (Gershoff, 2013). In one of our lab's publications, maternal touch attitudes and behaviour were examined in a longitudinal sample of at-risk and middle class maternal-child dyads (Narvaez, Wang et al., 2019). Lack of negative touch was positively related a child's to concurrent behavioral regulation at both 18 and 30 months. Maternal negative touch behavior at 18 months were positively related to children's externalizing problems at 24 and 36 months and negatively related to 36-month ratings of social competence. By 30 months of age, maternal avoidance of punishing touch related significantly to all of the child outcomes except internalizing problems.

Our lab's studies look at multiple nest components always controlling for responsiveness to see if additional nest components matter. For example, breastfeeding length has been positively related to the development of three-year-old children's inhibitory control and conscience (guilt and concern after wrongdoing), even after controlling for maternal responsivity (Narvaez, Gleason et al., 2013). This is not suprising when breastfeeding's effects on self-regulation and brain development have been shown to take place in a matter of weeks, as mentioned above (Deoni et al., 2013; Hart et al., 2003). In the aforementioned longitudinal sample of at-risk and middle class maternal-child dyads (Narvaez, Wang et al., 2013), maternal social support positively correlated with child cooperation at 18 and 30 months, child social competence at 24 months, and reduced aggressive behavior at 18 months.

The aim of our lab is to assess the linkages between early experience—using the baseline of the EDN—wellbeing and moral capacities, not only empathy and perspective-taking, but species-typical ethical mindsets seen in our ancestral contexts (Narvaez, 2008, 2014): ethical engagement (flexible relational attunement to others) and communal imagination (rooted in ethical engagement, using abstracting capabilities for practically wise planning and action). In contrast, dispositional self-protectionist ethics (social opposition, social withdrawa) are indicators of a stressed neurobiology. In a three-nation study, EDN provision in the past week (self-directed play, affection, no corporal punishment, family togetherness) was related to multiple child outcomes even after controlling for parental income, age, education, responsiveness, and child gender (Narvaez, Woodbury, Gleason, Kurth, Cheng, Wang, Deng, Gutzwiller-Helfenfinger, Christen & Näpflin, 2019). When latent variables for child outcomes were created--moral socialization (self-regulation, internalized conduct), social maladaptation (e.g., social distrust, social opposition, misbehaviour), and social thriving (e.g., social

[3] I find that when I give lectures about these things Western parents are almost always offended by hearing about the evolved developmental niche, whereas those from collectivist societies, as in Southeast Asia, take for granted the list of characteristics as the normal way to raise children and are astounded that a parent would not provide the nest to their young.

engagement, wellbeing)--structural equation models indicated that EDN provision significantly predicted, beyond control variables, all three latent variables in the USA and social thriving in all three samples.

In a study of adults, path analyses of higher levels of reported evolved nest (affection, play, family togetherness) experienced in childhood led to higher levels of secure attachment, lower internalizing (anxiety and depression), greater perspective taking (rather than personal distress) and greater commitment to ethical engagement rather than self-protectionist morality (Narvaez, Wang & Cheng, 2016). In a study with over 1500 adults, several measures of morality were examined along with secure and insecure attachment (Narvaez & Hardy, 2016). Higher secure attachment was related to lower protectionism which was linked to higher integrity.

The evolved nest provision can be described as love in action where the *manner* of treating the child is vital—not just responsiveness to conversational bids, but actual physical contact, comfort, play, and breast milk. These are embodied love in action. In early life, when neurobiological, social and moral foundations are being established, the continuum of feeling synchronous with mother and others, bonded to the fabric of life and embedded in with natural processes, is critical. No other animal intentionally breaks that continuum. What happens with a broken continuum? Do this to other animals, even separating a mammalian newborn from its mother for an hour a day after birth, and you get abnormality in hormonal systems (e.g., Kalinichev et al., 2002; Kanitz, Tuchscherer, Puppe, Tuchscherer & Stabenow, 2004). Yet, as noted, humans are more massively influenced by postnatal experience because of their greater immaturity and plasticity. Raise a wolf in a human family and you still have a wolf. Raise a human in a wolf family and you get a wolf-child—a human being that fits into the wolf world but never the human—because sensitive periods have come and gone.

We can observe the vast difference in personality and culture between societies that provide the evolved nest and those that do not. Studies and accounts of nomadic foragers, the type of society in which humanity spent 99% of its genus history, indicate a more virtuous nature (see below) than the vicious natures we now think are normal, such as selfish calculation of economic utility (Derber, 2013). Renowned anthropologist Marshall Sahlins (2008) pointed out how "the Western illusion of human nature" vastly differs from accounts in non-Western cultures. Darwin (1871) identified what he called the moral sense, whose components evolved through the tree of life and culminate in humans. The moral sense includes a set of characteristics that other animals display: social pleasure, empathy, memory function, concern for the opinion of others, and habit control to behave in socially-appropriate ways. Darwin noted the moral sense in primitive societies, but found it weak in his own (British) society. Elsewhere I (Narvaez, 2017, 2018) point out how the moral sense seems to be diminishing in the USA, where the evolved nest is the most degraded.

Humans are dynamic complex systems that self organize according to experience, and whose initial conditions shape subsequent development and function, barring later intervention. The nest components provide the type of stimulation and support at the right times and in the right ways, likely for any genotype, bringing about well-functioning psychosocial neurobiology (Overton, 2013). Human functions have multiple sensitive periods—where it is genetically determined that only certain kinds of stimuli affect a particular circuit or system. If those stimuli are missing, then that system does not develop properly, affecting later-developing systems upon which it relies (Knudsen, 2004). "Higher levels in a hierarchy depend on precise and reliable information from lower levels in order to accomplish their functions… Experience-dependent shaping of high-level circuits cannot occur until the computations being carried out by lower-level circuits have become reliable" (Knudsen, 2004, p. 1414). Reliable development can be presumably be fostered within the species-typical nest.

And now?

Extending back into civilization's undermining of child development, the USA has become one of the worst places in the world to raise a child. There are many reasons for this that interrelate, from the lack of support of parents (e.g., lack of parental leave, need for both parents to work for adequate income, lack of child care facilities at work, poor quality child care centers), manipulation of parents by corporate profitmakers like those who sell infant formula milk (Braden & Narvaez, in press), to widespread misunderstanding about what children need to flourish. Parents respond to a lack of community support by offering less support to their own children (Hrdy, 2009). Thus, contrary to millions of years of evolutionary adaptation, parenting babies for *detachment* (avoidant attachment) has become a dominant force in the USA (a "taboo on tenderness;" Suttie, 1932). This means that all sorts of moves are taken to force babies to be independent of parents (or parents of babies)—from baby-*unfriendly* hospitals, isolation in carriers and cribs, separate sleeping spaces, use of infant formula, and hours spent each day in stranger daycare. The implicit assumption is that babies do not need much mothering. Caregivers focus on meeting animal needs (nourishment, safety, warmth), with a blindness toward

mammalian needs (extensive affection, breastfeeding, and self-directed play), social mammalian needs (extensive bonding and community support) and human needs (intersubjectivity with multiple responsive others, immersion in communal rituals and cultural narratives, apprenticeship in life activities). And there is no informed baseline provided to parents for making appropriate judgments.[4]

The evolved nest provides an evolved *baseline* for optimizing normal development. Any shift away from the evolved nest should be considered a *risk factor* for poor neurobiology, self-regulation, social fittedness, sociality and morality. Any shift away should require *decades-long longitudinal evidence* that multiple relevant outcomes are not adverse. Truly, the evolved nest should be considered a human right because its degradation has long term harmful effects not only on the child but on society itself.

Communities who don't provide what a child evolved to need foster several types of mistrust: (1) mistrust in emotions and self-signals: mistrust of the child's body (and with undercare the body does not develop well and can seem like an alien that must be controlled/ignored); (2) mistrust of the parents/caregivers who inconsistently provide basic needs; (3) mistrust of the world—it is not a benign place but uncaring and threatening as the child regulatory capacities are set to be threat reactive. Sandler (1960) suggested that the early sense of danger grows into cynicism or anxiety, minimally into an adult with little trust or confidence in the self and the world, and maximally an adult with personality disorders. One has to wonder whether the widespread mistrust that has spread throughout the 20th century in the USA during the time period when the evolved nest has been particularly undermined, is related to the nest's demise--along with the lack of confidence plaguing young people of all ages, not to speak of the deteriorating health of everyone under 50 mentioned earlier.

Lack of nest provision means the evolved trajectory for the development of human nature is broken. Instead the child becomes insecure and unconfident in self, parents, and the world. Such a child will look like they need adult guidance to grow. They will look and be dysregulated which again adults will interpret as 'the way babies are' and use coercion to shape them differently. The child will forever after be ruled by external forces because the development of an internal compass was broken early on by the ignorance of adult caregivers. The nest shapes subjectivity—the nature of how one sees the world (Narvaez, 2014). The child will learn to seek hierarchy because it provides a scaffolding for living life with some feeling of security. Self-protective aggression or withdrawal will be at the ready if the script is challenged. The personal narrative the child develops is one of deep flaws and so the individual will forever seek relief through cultural narratives that justify current dysregulation and that assure safety (and dominance) (Narvaez, 2011).

Virtue Development in Communities that Provide the Evolved Nest

Species typical human development is apparent in cultures that maintain our prehistoric ways of living (small-band hunter-gatherers, in which the human genus existed for 99% of its presence on the earth). Of course, we cannot return to nomadic foraging, but we can shape institutions and incentives to support provision of the evolved nest, especially to young children. When the nest is provided, it offers grounding for virtue development, which used to be normal and part of survival, but in a wider sense of living sustainably in one's landscape. When

[4] A recent book, Cribsheet, by a health economist uses research studies as the baseline for judging best parenting practice. Failing to attend not only to the limitations of research studies, especially in medical journals, but lacking awareness of basic child needs, she tells parents not to worry about sleep training as the research studies show it is safe (contrary to anthropological studies; Mckenna et al. 1994). She claims that breastfeeding has no long term effects disregarding studies such as those of behaviour regulation differences and myelinization differences in short-term comparisons of formula vs exclusive breastfeeding (refs) and makes no mention of the species-normal length of breastfeeding and its effects (Prescott, 1996). Oster uses a science-as-manipulation approach. Economist E.F. Schumacher pointed out how science shifted from a focus on wisdom to a focus on manipulation, playing a large role in developing the world crises we face. The science of manipulation assumes separable parts, fragments of reality, and attempts to find ways to control those parts. It treats all the parts as purposeless and only focuses on what can be measured and manipulated. And so it ignores reality of dynamic, shapeable life, the interconnection, interpenetration of all of life. Schumacher said: "Western civilization is based on the philosophical error that manipulative science is the truth, and physics has caused and perpetuated this error. Physics got us into the mess we are in today….Science is concerned primarily with knowledge that is useful for manipulation, and the manipulation of nature almost invariably leads to the manipulation of people." (Capra, 1997, p. 35). Unfortunately, this manipulative form of science has been applied to parenting for the last century or more. Most explicitly in psychology, it began with John Watson's 1928 book for parents that advocated treating babies like college students—ignoring them a lot so they would get used to such treatment from the beginning. He encouraged a cold, unresponsiveness towards babies that unfortunately is still with us.

it is provided, societies show egalitarian relational attunement with others (including other-than-humans) and use their imaginations for communal ends that include the welfare of the biocommunity (plants, animals, rivers, forests) (Fry & Souillac, 2017; Ingold, 2005; Narvaez, 2013). They live contentedly and sustainably (many for thousands if not tens of thousands of years). This is our human heritage.

A successful species should not be assessed by their own generational success but by whether they help their species flourish in the future. This necessarily means cooperating with the biocommunity in which the species survives (Cajete, 2000). Wiping out other species undermines the ecological balance that is required for the flourishing of individual species as well as the whole community. Of course, there are regular fluctuations in any dynamic system, but under normal conditions of local groundedness, this occurs within a narrow range of fluctuation that does not destroy a whole species.

Kohák (2000) lists the characteristics of a species' overpopulation: living off of nature's substance instead of its annual yield, the crowding out of other species, and the loss of ability to raise the young with necessary skills. Kohak noted that humanity was manifesting these indicators decades ago. As described here, the evolved nest is especially missing in "advanced" nations, creating anxieties that are mitigated with work, addictions and control. However, perhaps more importantly in this era of planetary disaster, most children do not learn to live as partners of a local biocommunity. The western worldview, deeply rooted in the metaphors used to guide life (e.g., progress, separation from and superiority to the rest of the natural world, Bowers, 2003), perpetuate the disconnection from nature. Most members of western societies today are missing attachment to the natural world, to the particularities of a place, which is a significant characteristic of sustainable communities such as the San Bushmen who have been extant for over 100,000 years (Suzman, 2017). Surely attachment assessments should include bonding to nature as part of a full humanity and of a grounded virtue (Narvaez, 2014).

Conclusion

If we are going to discuss virtue and vice, we must take into account the life world in which we exist. We must take into account the totality of flourishing. We live among a slippage of baselines: standards and expectations for child raising, child outcomes, adult health and wellbeing, social support throughout life, living with other-than-humans. These shifts represent extensive social poverty leading to social and nature disconnection, a massive deterioration of relationships away from respect and responsibility. The undermining of the human nature that emerges when the evolved nest is provided and that was adaptive for our ancestors leads to a world increasingly filled with dysregulated, self-centered people who are more vicious than virtuous, and who create theories of human nature to rationalize the slippage as normal and in need of coercive strategies (Hobbes, 1651/2010; Wrangham & Peterson, 1996), affecting how parents view and treat their children (Gerhardt, 2010). Without baselines to guide judgments about species typicality, it is easy to think 'there is no other way to be' or that humanity is 'progressing' from a violent past (Pinker, 2011).

Moving forward, researchers need to take into account how nested their subjects are before drawing conclusions about human nature. Parents need to understand the short and long term effects of evolved nest provision and that investment in a young child's nurturing is well worth it. But this can only happen with community and institutional support. Policymakers need to understand that if a child's early nest is not supportive for proper psychosocial and neurobiological development, costs will go up for dealing with the resulting dysregulated people. The evolved nest is critical for restoring human virtue to its earth-centric origins. Never before has this been more important.

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