

## Neurobiology, Evolution and Baselines for the Ecology of Human Development and Morality

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The ideas presented below are based on studies of **small-band hunter-gatherer societies** (nomadic foragers with immediate-return practices [vs. delayed-return societies who invested in cultivation, domestication, or resource accumulation]), whose lifeways represent 99% (over 2 million years) of human genus existence (Fry, 2006). When we look back across the early periods of human evolution, virtue (defined as doing the right thing in the right way at the right time) was commonplace (Narvaez, 2013, 2014). Social life within the band was characterized by egalitarianism, deep collectivism and group identity, leisure time spent in social enjoyment (play, music, laughter), cooperation, partnership with nature, autonomy, generosity and sharing (e.g., Gowdy, 1998; Ingold, 1999). The majority of time was spent in activities that generate “moral moods” (dispositions sustained by well-being enhancing neurotransmitters, e.g., oxytocin). Virtue was linked to interpersonal and collective survival: the vicious would be shunned (and not survive).

Developmental neuroscience research is now demonstrating that virtue and wellbeing are intimately linked with early child care practices. The Evolved Developmental Niche (EDN) evolved to fixation more than 30 million years ago with the social mammals (Konner 2005) and intensified with human evolution—human infants are born 9-18 months early compared to other animals and have the longest maturational schedule (3 decades). Many epigenetic developments occur during these crucial periods that also are dependent upon maternal/parental caregiving. EDN practices foster bottom-up virtue (e.g. the ability to respond adaptively and compassionately to novel circumstances) vs. other care practices that foster top-down rule following.

**THE EVOLVED DEVELOPMENTAL NICHE: What are the characteristics of the EDN that childrearing practices in the USA have gradually phased out and why does this matter?** (For a more in-depth review, please see resources list, especially Narvaez, 2014).

Evolved Developmental Niche for young children	Sample effects on child/adult outcomes	Sample effects on young children’s moral development <sup>1</sup>
Natural childbirth (no drugs or interference with timing)	Baby can initiate breastfeeding and cascade of hormones in mother	Empathy, conscience, self-regulation <sup>2</sup>
No forced separation of newborn/young child from mother	During separation: stress increases, growth and DNA synthesis stops	<i>Self-regulation</i> <sup>3</sup>
Breastfeeding on request for 2-5 years or until first adult molar	Stronger immune system, non-depression, intelligence, perception, less cancer and diabetes, better health	<i>Breastfeeding initiation</i> : conscience, intelligence (e.g. how to effectively seek what is needed); <i>Breastfeeding length</i> : conscience, inhibitory-control
Affectionately held or kept near caregiver always (no negative touch)	Growth, self-regulation, genes turned on to control anxiety	Empathy, self-regulation, conscience, intelligence
Prompt response to needs to keep young child from distress	Calm brain, low stress reactivity, vagus nerve well established	Cooperation, non-depression, non-aggression, self-regulation
Multiple responsive adult caregivers (and extensive support of the mother)	Overall child outcomes better	Competence, cooperation, non-aggression, intelligence
Free play in nature with multi-aged mates	Self-regulation, social skills, no (or lower incidence of?) ADHD	Empathy, self-regulation
Embeddedness in natural world	Receptive intelligence to nonhuman communications; Nonhumans considered partners	<i>Ecological attachment (no studies)</i>

<sup>1</sup>My lab’s data with 3-year-olds unless otherwise noted; <sup>2</sup>This is attitudes data only; <sup>3</sup>Other people’s data, not ours

### Examples of western childrearing practices that depart from the EDN:

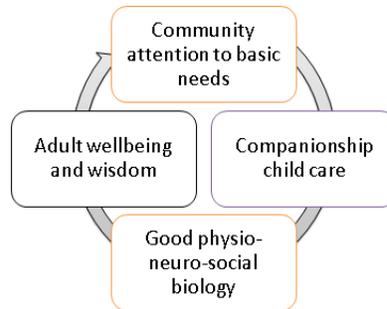
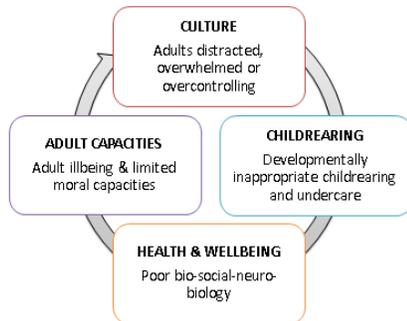
- Hospital births (99% by 1950s) instead of being low-cost at home with the woman in charge shifted to doctors in charge with high costs. Babies were thought to not feel pain so various procedures were conducted on them (e.g., circumcision) and they were separated from mother (who was knocked out for birth which in turn required the use of forceps)
- Administration of anesthetic drugs during childbirth which still occurs— suppresses newborn infant’s awareness, capacities to breastfeed, undermining mother post-natal sensorimotor attachment behaviors vital for secure mother-infant bonding.
- Use of cribs, car seats, strollers – separates the infant from biological contact, which prevents both epigenetic activation of genes related to systemic regulation and the development of interpersonal somatic awareness, which supports optimal participation in social relationships later.

**Baselines have shifted.** As a result of our declining emotional and moral intelligence from the increasingly poor childrearing, standards for what is “normal” (child raising practices, human nature, health, culture) keep dropping (e.g., self-regulation, concern for others). Thus, modern societies increase *immoral* exemplarity and make moral exemplarity more impossible to cultivate or find.

**TRIUNE ETHICS THEORY: Triune ethics theory** (Narvaez, 2008, 2014) describes the effects of early experience on the development of core neural networks involved in self-regulation and social interaction as well as on the development of moral functioning. When children do not get what they need during critical periods (right hemisphere development in early life), they develop a more self-protective orientation (**Protectionist Ethics**) because their prosocial emotion circuitry was inadequately developed and because extensive distress wires the brain for stress reactivity (incongruent with compassion) so they rely on suboptimal emotional circuitry or even more primitive brain systems for social interaction. They have a minimized or absent **Engagement Ethic** (relational attunement) and subverted **Imagination Ethic** (reflective abstraction).

**CULTURE: Modern “civilizations” misdevelop their children** by not providing the Evolved Developmental Niche, undermining perceptual and relational capacities: deep empathic roots for human and nonhuman that circumscribe autonomy (actions in the world). Moral inheritances of Engagement and Communal Imagination are underdeveloped. Instead, most people reside in Protectionist ethics to control others or detach from relational awareness. Detached science, business, religion do much harm to human and nonhuman. The cycle of undercare is continued through adult illbeing and the creation of a **Culture of Competitive Detachment** to match their experience. Members of these societies on the whole do not experience themselves as being relationally embedded, and as a result become restless and move across the landscape, causing destruction wherever they go. Shifting baselines continue across generations.

Culture of Competitive Detachment      Culture of Cooperative Companionship



In contrast, when societies provide the Evolved Developmental Niche and companionship care throughout life, they foster and maintain good biosocialneurobiology, wisdom and a culture to match: a **Culture of Cooperative Companionship**.

**ECOLOGICAL ATTACHMENT:** The past 20 years of attachment and developmental neuroscience research have affirmed the vital role that social interaction and secure attachment play in the development of a child’s emergent capacities for self-regulation and relationship. **What about ecological interaction and attachment?** Do these also play a role in fostering positive capacities? Recent research suggests there is a strong correlation, however there is still much to be understood. As with attachment and social neuroscience research, the implications for culture and behavior are likely to be profound.

**RESOURCES**

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