Moral Mindsets and the Neurobiology of Moral Formation

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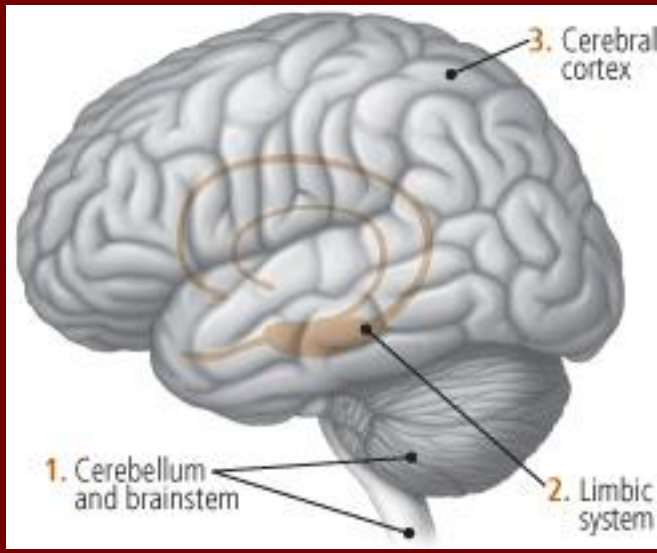
Emotions are Foundational to Human Functioning

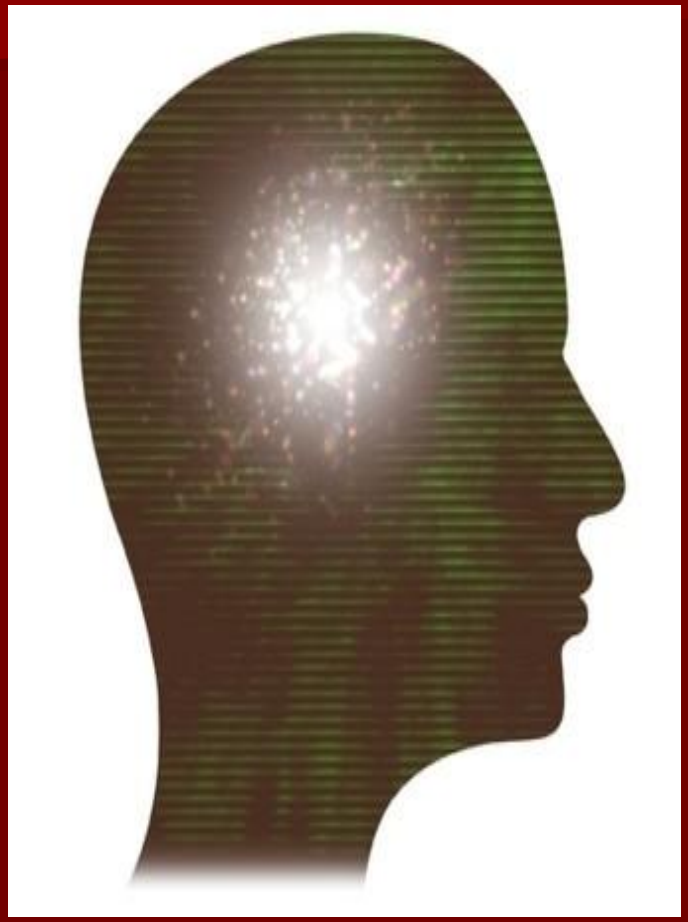
- Emotional systems placed centrally interact with
- more evolved cognitive structures and
- lower-level physiological and motor outputs (Panksepp, 1998)



Emotion and Cognition Built Together

- General cognitive structures "*emerge* from recurrent patterns of sensorimotor activity"[1]

[1]Varela, 1992/1999, p. 16



- Emotional circuitry established early in life is related to the brain's architecture of morality & ethical expression

Moll, Zahn, de Oliveira-Souza, Drueger, & Grafman, 2005

Secure Attachment in Infancy

- Caregivers
  - comfort distressed immature reflexive systems
  - condition systems to be calm
  - predictably consistent in cognitive and emotional signaling
- Child learns communicative value of interpersonal signals, both cognitive and affective.

Secure Attachment in Early Childhood

- Needs satisfaction through attachment figure
- Child develops
  - Repertoire of social communication, behaviors
  - Self-soothing through mental representation
- Sets up healthy baselines

Poor early experience

- **Avoidant** Insecure Attachment
  - Emotionally rejecting caregivers
  - Inhibit emotion
  - Emotionally underdeveloped
- **Ambivalent/Anxious** Insecure Attachment
  - Inconsistent caregiving
  - Learn to use emotion to coerce
  - Underdeveloped cognition

Avoidant Preschoolers-1

- Can't **act** avoidantly—interpreted by adults as rudeness or disrespect (Cassidy & Marvin, 1991)
  - Replace behavioral avoidance with psychological inhibition.
  - Interact with coolness, no affective signaling.
- Distrust affect (misleads) but cognitive activities yield reinforcing outcomes.
- Defensive self-enhancement
- Intimacy is uncomfortable (Crittenden, 1992a, 1994).

Avoidant Preschoolers-2

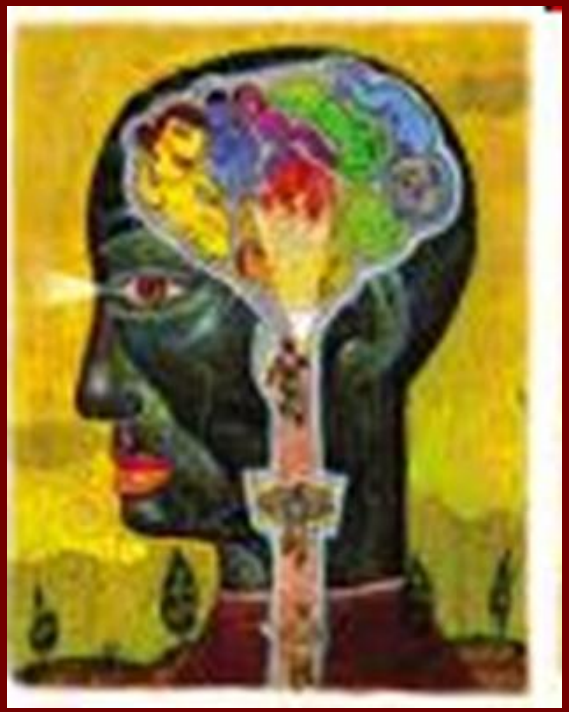
- **Compulsive caregiving** and false affect and in children with withdrawn mothers
- **Compulsive compliance** for hostile and demanding caregivers
- Inhibition of own desires and to do exactly what is demanded of them (Crittenden & DiLalla, 1988).

Ambivalent Preschoolers

- Distrust cognitive and verbal reasoning that purports to offer information about the predictable relations among behaviors.
- **Affect**, displayed at high intensity, leads to the most favorable outcomes.
- **Coercion**: Keep affect salient and defend against misleading cognition.

Attachment: Internal Working Models

- According to Bowlby, these are
  - Dynamic mental simulations
  - Provisional (adjustable)



- **But what is co-constructed is much more than psychological**

Early Child Development

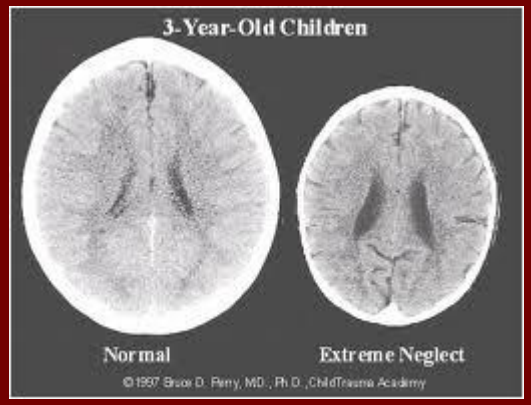
- Born 9-18 months early
  - 25% of brain volume (80% by age 3)
- Right brain development before age 2
- Immune system takes about 6 years
- Developmentally plastic for epigenetics

Caregivers co-construct

- Body, brain and psyche
  - Birth brain (brainstem, midbrain, limbic)
  - To-be-developed brain (neocortex)
  - Through physical and social communication
- All capacities are initially shaped through caregiving practices.

Trauma, abuse, neglect in early life

Developmental traumatology



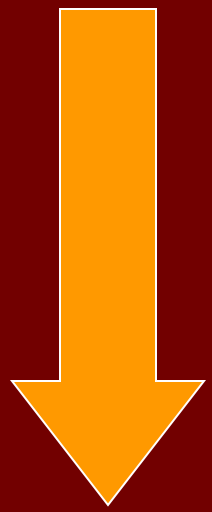
- Stress response
- Immune system
- Endocrine system
- Neurotransmitters (number, function)
- Emotions and emotion systems
- Corpus callosum
- Brain hemispheric integration

• OVERREACTIVE
• SUPPRESSION
• MALFORMED
• MALFORMED
• UNDERDEVELOPED
• UNDERDEVELOPED
• POOR

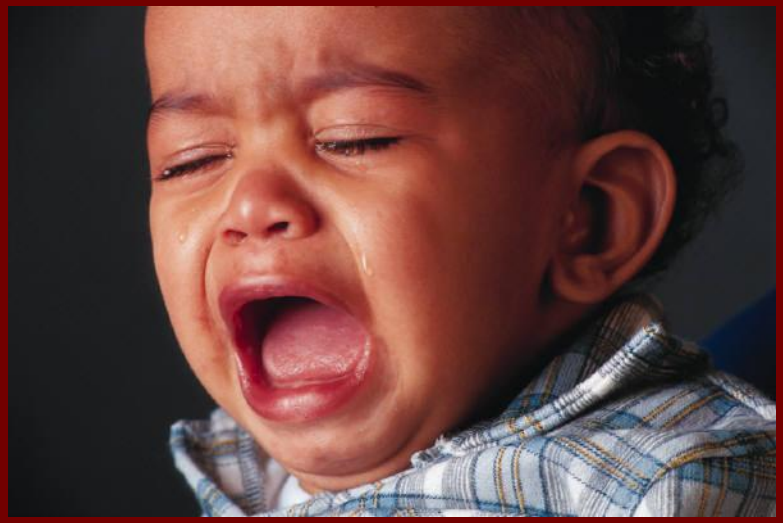
Good Early Experience for Young Kids
(30 million year old mammalian practices)

- **TOUCH**: *Held or kept near others constantly*
- **RESPONSE**: *Prompt responses to fusses and cries*
- **BREASTFEEDING:** *Nursed frequently (2-3 times/hr initially) for 2-5 years*
- **EXTENSIVE MATERNALSUPPORT and ALLOPARENTS**: *Shared care by adults other than mothers*
- **PLAY**: *Enjoy free play in natural world with multiage playmates*
- **NATURAL CHILDBIRTH**

Hewlett & Lamb, 2005; Konner, 2010; Narvaez, Panksepp, Schore & Gleason, in press)



Inadequate Early Care



- Deficiencies in
  - Brain structural integrity
  - Hormonal regulation
  - System integration that lead to sociality

USA has epidemics of anxiety, depression among all age groups suggesting widespread deficiencies

(Hofer, 1987; Lewis et al., 2000; USDHHS, 1999)

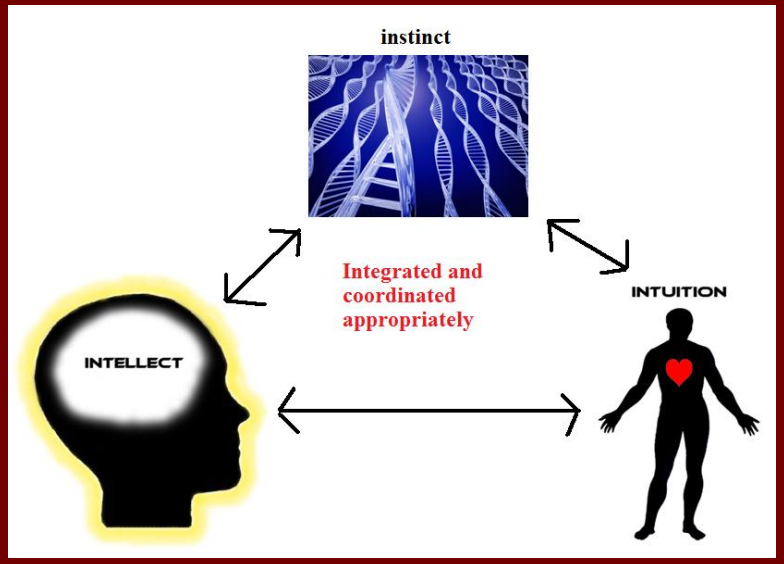
Right Brain Underdevelopment

- Self-regulation
- Intersubjectivity and social pleasure
- Emotional intelligence
- Empathy
- Beingness
- Self transcendence
- Higher consciousness

Luckily, the right brain can grow throughout life!

Multi-Ethics Theory (Narvaez)

- Affectively-rooted moral orientations emerged from human evolution
- Neurobiological systems shaped by early experience
- 3 basic types of mindsets
  - Safety (self-protection)
  - Engagement (presence)
  - Imagination (abstraction)



Multiple Ethical Identities

- Each ethic can propel human moral action
- Everyone has each ethic to some degree
- Based on experience, one can be favorably disposed towards one ethic
- You can shift ethics from situation to situation

Situational Ethical Identity

- When the emotions of an ethic trigger behavior and trumps other values, it becomes an ethic
- Emotions
  - change sensory, perceptual, and cognitive processing (Panksepp, 1998, p. 49).

Multiple Moral Orientations

- INNATE: Each ethic is available to most adults
- PERSONALITY: Individual brain/minds can favor one ethic over others in a person by context manner
- SITUATIONAL: Ethical orientation can shift from situation to situation, moment to moment

Situational Effects

- Emotions and needs in the moment change sensory, perceptual, and cognitive processing
  - **Emotion** changes vision (Rowe, Hirsh, & Anderson, 2007; Schmitz, de Rosa, & Anderson, 2009)
  - Physiology changes responses (DeWall, Pond & Bushman, 2010)
  - **One's needs** change affordances (Ariely & Loewenstein, 2005)
    - Even when thinking of others in need (van Boven & Loewenstein, 2003)

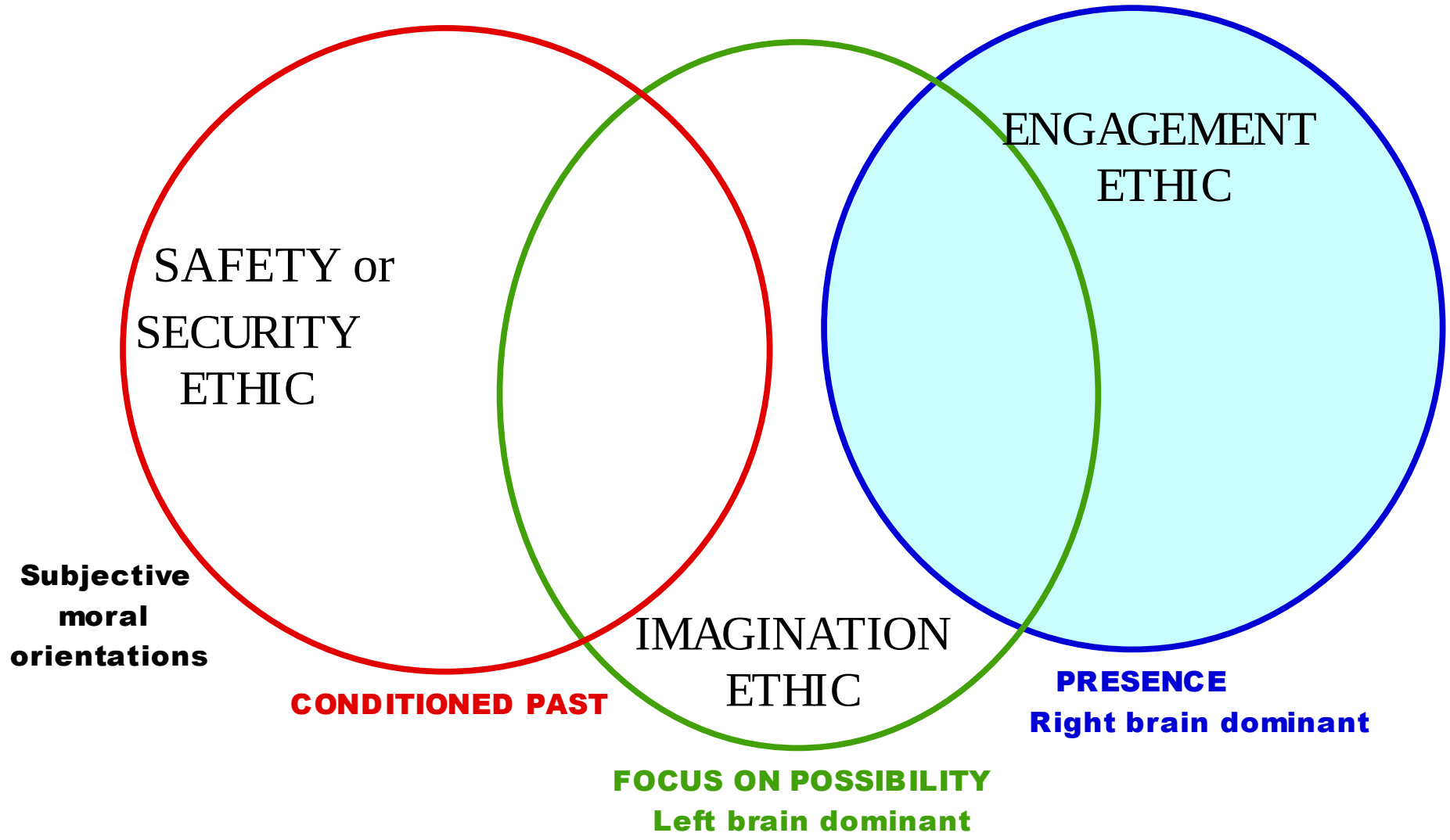
What is an ethic?

EVENT

Emotion-cognitive response

Triggers behavior that trumps other values

Subjectively, it is an ethic


SAFETY or
SECURITY
ETHIC
ENGAGEMENT
ETHIC
IMAGINATION
ETHIC
Subjective
moral
orientations
CONDITIONED PAST
PRESENCE
Right brain dominant
FOCUS ON POSSIBILITY
Left brain dominant

Ethic of Security: Relational Self-protection

- Based primarily in instincts for **survival (brainstem, lower limbic system)**
  - Systems shared with all animals *(Panksepp 1998)*
  - Available at birth
  - Useful in moments of physical threat
- Instincts primed by perception of fearful climate or situation
- Takes over attention
  - Depletes resources for higher order processes
  - Shifts attention to the self, lowering empathy

Security Subtype 1: *Wallflower Security*

- "Freezing" or disassociative "Flight"
  - Based in the systems that protect body from death
- Self-preservational: Internalizing
  - Likely from early experience of mortal peril in face of relational breach and unmitigated panic and fear
- Submission
  - Knee-jerk response to the power of an authority (as occurred in Germans' response to Hitler).

Security Subtype 2: *Bunker Security*

- "Fight"
  - Based in the activating sympathetic system
- Self-preservational: Externalizing
  - Early conditioned response to relational breach and unmitigated panic and fear
- Defensive aggression

Wallflower

SECURITY ETHIC

Bunker

Subjective moral orientations

CONDITIONED PAST

IMAGINATION ETHIC

FOCUS ON POSSIBILITY

Left brain dominant

ENGAGEMENT ETHIC

PRESENCE

Right brain dominant

Narvaez, 2008, 2009, in preparaion

Ethic of Security

- More dominant in a personality when early life does not conform with mammalian needs
  - Neglectful or harsh child rearing
- Cultures emphasizing fear or evil human nature prime for this ethic
  - And allow neglectful childrearing to prevail

2. Ethic of Engagement

- Rooted in emotion systems underlying Darwin's "moral sense"
- Mammalian emotional systems drive us towards intimacy
  - Social and sexual instincts, empathy and parental care, play (Darwin, 1891; Loye, 2002)
    - Locus of human moral sense
    - Propels human evolution more than genetic evolution

Engagement Calm or Harmony Morality

- Full presence in the moment
  - Intersubjectivity
  - Resonance with the Other
- Persons relationally focused in the present
  - Devoted mother
  - Extreme example: Williams' Syndrome

Wallflower

SECURITY ETHIC

Bunker

Subjective moral orientations

CONDITIONED PAST

IMAGINATION ETHIC

FOCUS ON POSSIBILITY

Left brain dominant

ENGAGEMENT ETHIC

PRESENCE

Right brain dominant

Narvaez, 2008, 2009, in preparaion

Engagement Ethic

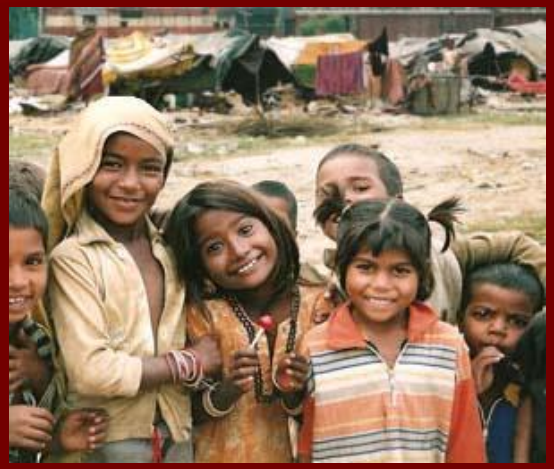
- Primary emotional force behind "positive" moral behavior
- For most Gentile rescuers of Jews in World War II "caring compelled action" (Oliner, 2002; p. 125)
  - most were driven by "pity, compassion, concern and affection" (ibid).

Ethic of Engagement is not innate

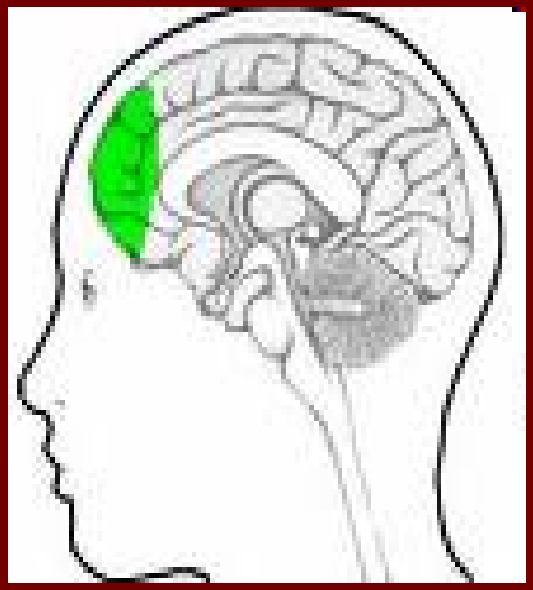
- Dependent on proper care during infancy and childhood (EEA care)
  - Brain circuitries necessary for social engagement (Greenspan & Shanker 1999; Panksepp 1998; Schore, 1994)
- Inadequate care leads to deficiencies
  - Hormonal regulation
  - System integration that lead to sociality (Hofer; Lewis).
  - Security Ethic becomes the default system

Engagement is not enough for fullest morality

- Humans evolved to favor face-to-face relationships
- Difficulty imagining those not present (e.g. future generations)
  - But, prefrontal lobes allows for some sense of community beyond immediate relations.



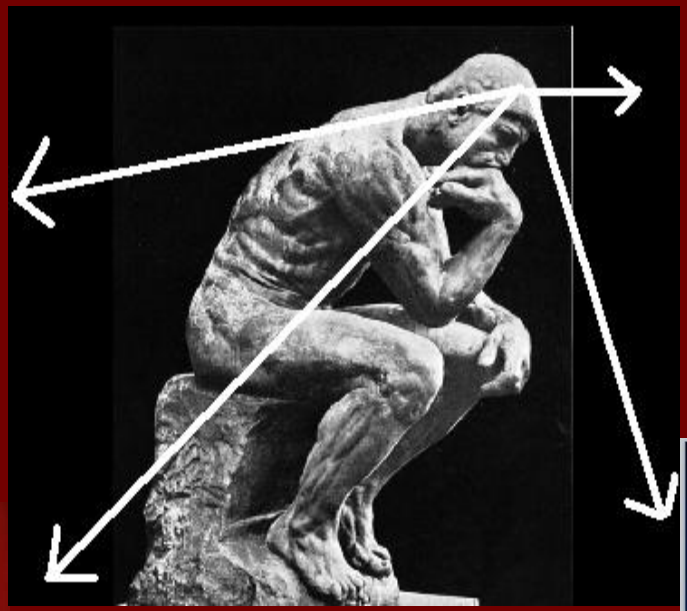
3. Ethic of Imagination

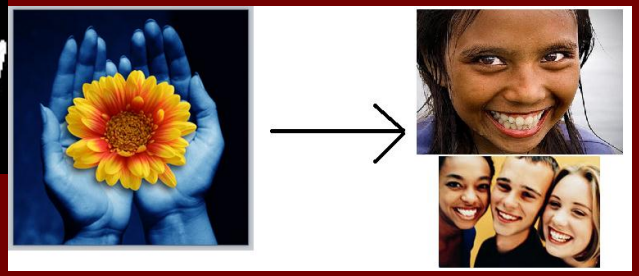


- Neocortex and Prefrontal Cortex
- Abstraction
- Deliberative moral reasoning
- Moral imagination
- Coordinates the intuitions and instincts of the other (older) ethics
- Free "won't"

Coordinates Moral Imagination

- Gut feelings and intuitions
- Principles
- Self goals/needs with the goals/needs of others
- Reactions and outcomes (of self and others)





Detached

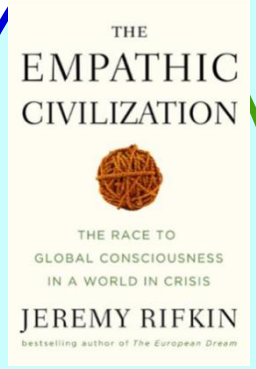
Wallflower

SAFETY or
SECURITY
ETHIC

Bunker

Vicious

ENGAGEMENT
ETHIC



Communal

Subjective moral orientations

CONDITIONED PAST

IMAGINATION
ETHIC

PRESENCE
Right brain dominant

FOCUS ON POSSIBILITY
Left brain dominant

Narvaez, 2008, 2009, in press, in preparaion

Imagination Subtype 1: Detached Imagination

- Left brain dominant
- Emotionally cool or cold
- Categorizes and stereotypes
- Objectifies, dissects and orders
- Seeks control and power over objects
- Seeks a firm, certain answer
- Calculates usefulness of other people and things

Detached Imagination

- Innovation without a sense of consequence
- Psychopathy is extreme version
- Extreme systematizing brain
  - Asperger's syndrome (Baron-Cohen)

Imagination Subtype 2: Vicious Imagination

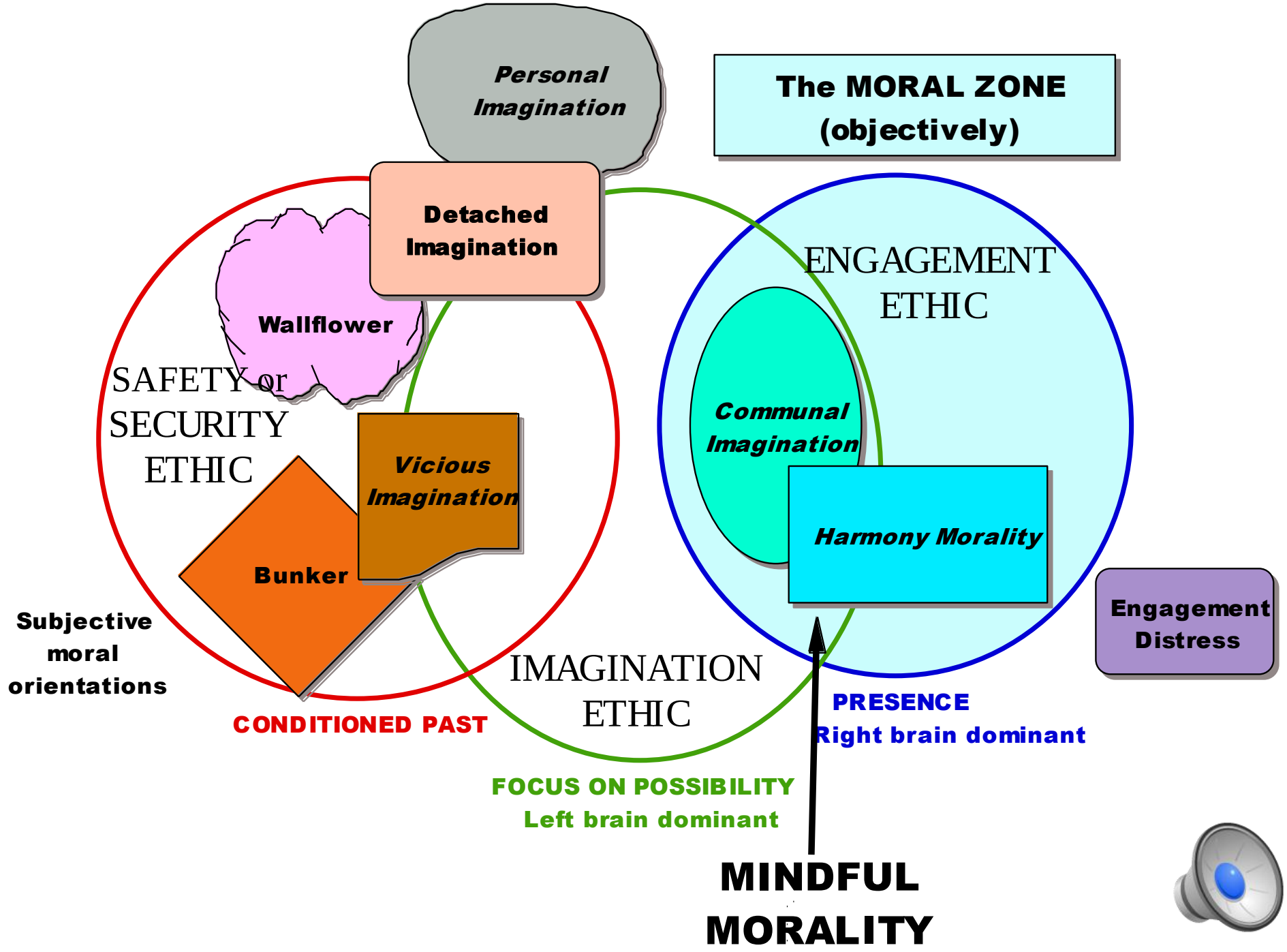
- Fueled by anger and aggression
- Ideological striving
- Seeks power over the Other
  - "Moral mandate" (Skitka & Morgan, 2009)
  - Scapegoating or killing of the Other is moral action
- Primary force behind "negative" moral behavior
  - Simone Weil's view: "Evil when we are in its power is not felt as evil but as a necessity, or even a duty."

Imagination Subtype 3: Communal Imagination

- Prosocial imagination
- Perception of possible moral futures
- Emotion engaged
- Part of the "Moral Zone"

THE MORAL ZONE

- Governed by the right brain
  - Presence
  - Here and now
  - I-Thou relationships
  - Hospitality
  - Agape love
- Supports individual and communal flourishing


Personal Imagination
The MORAL ZONE (objectively)
Detached Imagination
Wallflower
SAFETY or SECURITY ETHIC
Vicious Imagination
Bunker
ENGAGEMENT ETHIC
Communal Imagination
Harmony Morality
Engagement Distress
Subjective moral orientations
IMAGINATION ETHIC
CONDITIONED PAST
PRESENCE
Right brain dominant
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Left brain dominant
MINDFUL MORALITY

Mindful Morality

- **Harmony Morality**: Maintains a sense of emotional relatedness to the Other (right brain)

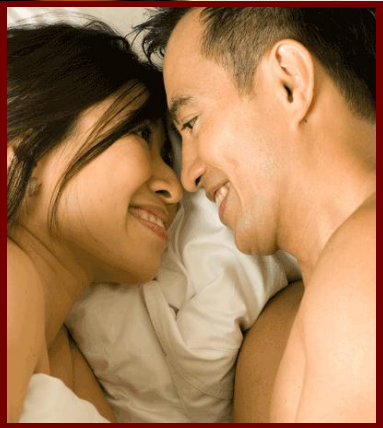
PLUS

- **Communal Imagination**: Uses abstraction capabilities to solve moral problems (left brain)

Interventions

- Good early care

- Therapy can rewire the brain
  - Reactivate the right brain (Siegel)



- Individuals can learn to foster one ethic or another
  - Keep bonding hormones active

- People can build calm, communal cultures

For More Information and Papers

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My blog at Psychology Today: http://www.psychologytoday.com/blog/moral-landscapes