

Brains on Relationship: The interpersonal neurobiology of the attachment and social engagement systems and their impact on mediation

OR: Interpersonal Neurobiology and the Significance of Danger, Comfort and Relationship to Conflict

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Mark Baumann, JD
mark@markbaumann.com, www.markbaumann.com
206-851-9337
Seattle / Port Angeles, WA
Rachel Hardies, MA
rachelhardies@gmail.com
360-670-2336
Port Angeles, WA

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Who are we?

- Mark Bauman
 - Lawyer, mediator, tribal judge pro tem
 - Associate, High Conflict Institute
 - Interpersonal Neurobiology, graduate credit certificate, Portland State University
 - <http://www.pdx.edu/ceed/interpersonal-neurobiology-certificate-of-completion>
 - WSBA ADR section executive committee
 - 25 years in the trenches
- Rachel Hardies
 - Psychotherapist
 - Naropa University, Transpersonal Counseling Psychology masters program
 - Student, Interpersonal Neurobiology, graduate certificate program, Portland State University

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Road Map

- The Big Picture: Gain a deeper understanding of what drives conflict
- IPNB
- Danger, Comfort & relationship
 - Fight-Flight-Freeze vs. Social Engagement System
 - Attachment
- Left/Right Brain

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Road Map: Solutions

- A deeper awareness of
 - Safety Calm
 - Comforting Understanding
 - Relationship Presence
- A 4-step process for promoting neural integration
 - linking and then differentiating with a party to create safety, mastery, autonomy, and neural integration
- What IPNB tells us about listening
- *Caveat: This information can be difficult because you may find yourself looking at yourself*

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Why Do We Care?

- Improve parties experiences
- Improve parties ability to engage in optimal decision making
- Enhance durability of agreements
- Enhance negotiation skills with parties
- Improve civility
- Avoid ethical complaints

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Assumptions About Conflict

- Conflict may not always be driven by the apparent issues.
- More specifically, conflict is driven by
 1. Genetics (temperament)
 2. Neurobiological systems (physical brain-body)
 3. Psychological (coping methods developed in childhood in response to perceived relationship danger)
 4. Relational (partner, family, work)
 5. Context (neighbor 1, neighbor 2)
- Relationship danger is more complex than we normally think
- Conflict drives will spill over into us and affect our thoughts, emotions, behaviors (emotions can be contagious)

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Interpersonal Neurobiology

- Aka, Relational Neurobiology
- Combination and interaction of
 - Relationship science and theory
 - Neuroscience, biology, physiology...
- Interdisciplinary: 26 fields
- Conciliatory: Attempts to harmonize and find common language, for issues such as:
 - Emotion, thought, mind
 - Communication, personality, mental health
 - Parenting
 - We are adding: conflict management

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IPNB Luminaries

- Dan Siegel (founder), Allan Schore (psychotherapy), Stephen Porges (polyvagal theory), John Bowlby, Mary Main & Patricia Crittenden (attachment), Iain McGilchrist (hemisphere theory), Carl Rogers (client centered theory), Jaak Panksepp (emotion), Gabor Mate (attachment, addiction, ADHD) John Kabat-Zinn (mindfulness), Bonnie Badenoch (psychotherapy), Charles Darwin, Marco Iacoboni (mirror neurons), Bessel van der Kolk (trauma), Jean Decety (empathy)

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Interpersonal Neurobiology 3 Key Concepts (conflict)

1. Three core drives of human behavior highly relevant to conflict include:
 - Avoidance of danger (and comfort, especially after exposure to danger)
 - Being in relationship (feeling connected)
 - Mastery and autonomy
2. Relationships and brain/body function are interconnected
 - We affect each other

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3. Neural Integration

- “Integration” is the heart of IPNB
 - Brains/bodies have many parts and subsystems
 - Harmony leads to optimal problem solving
 - Organisms have natural drive towards integration
 - Cf Rogers “actualization”
- Non-integration: leads to individual system bias
 - May be functional, i.e. fight-flight-freeze (amygdala hijack)
 - May be dysfunctional, and leads to chaos or rigidity
- Integration is both:
 - life goal and
 - “in the moment”

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Brain Parts and Systems

- Electrochemical drives, chemical drives
- Neurotransmitters: happy and fear chemicals
- Left and right parts (including neocortex hemispheres)
- Memory systems
- Neurons and wires
 - Neurites are the axon and dendrites coming out of a single neuronal cell connecting neurons in brain; nerves are big neurites
- mPFC
 - Middle Prefrontal Cortex, main area of executive functioning
 - Emotional balance, fear control, body regulation, flexibility of response, attuned communication, insight, empathy, morality, intuition
- Autonomic nervous system (amygdala, Hypothalamic-pituitary-adrenocortical (HPA), vagus nerve)

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Autonomic Nervous System: Danger-Safety-Relationship Vagus nerve system

- ANS involves automatic systems
- Includes **unconscious danger/Safety and relationship system supporting approach or withdrawal**
- Strong governance over the
 - **Fight-Flight-Freeze**, and
 - **Social Engagement System**
 - It's one or the other: withdraw or approach

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Neurobiological System: Amygdala- HPA-Vagus Nerve

- Amygdala, sniffs out danger, sends energy down two systems
- HPA axis
 - Chemical (adrenal) system, releases adrenaline, primes body to mobilize (FF)
- Vagus nerve (vag is Latin for “wandering”)
 - electrical (nerve) system
 - wires up heart, lungs, gut, and
 - facial muscles, middle ear muscle
- primes body for Fight-Flight-Freeze or Social Engagement System
 - Significance: one or the other

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Approach or Withdraw

- Danger drives energy down away from mPFC to support withdrawal (FFF)
 - Mobilization (fight-flight) or immobilization (freeze)
 - People cannot hear when in FFF energetic state
- Safety drives energy up to mPFC and social circuits for approach (**social engagement**)
- Set points
 - People have strong, average, or weak vagal nerve strength (tone)
 - **stronger**: more able to tolerate danger, quickly recover from danger exposure
 - **weaker**: more reactive to danger, long time to recover from danger exposure
 - Significance: Requires more time, patience and safeness

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Neuroception

- “Neuroception” (sixth sense)
 - Nervous system’s detection and processing of danger and safety in environment
 - Brain-body receives *far more* information input than we can process in our conscious awareness
 - Vagus automatically, unconsciously, responds to relationship cues
 - Face, prosody, body gestures
- Can be tricked into sense of safety and approach feeling with charm and seductions
- Coined by Porges. Implications for conflict, autism

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Social Engagement Behaviors

- Facial expression (smile vs sneer vs flat)
- Eye contact/eyelid level (droopy vs open)
- Vocal tone (expressive vs monotone)
- Vocal pitch (midrange (safe) vs. low (unsafe))
- Orienting (turning toward vs away from)
- Contingently responsive (smile to smile)

- Make a face and see how you feel
 - Smile
 - Frown
 - Fear face
- Primes body systems, doesn't control

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What is Safety/Danger?

- Danger cues?
 - Tiger, terrorist, mugger
 - Harsh/very low-very/high voice, face, body posture
 - Person not meeting my needs

- Safety cues?
 - Mommy, daddy, jurist, mediator (?)
 - Soft warm voice, face, body posture
 - Empathy, compassion, sympathy, kindness, understanding, being interested in the other, being open, nonjudgmental...

- Still Face Experiment: Dr. Edward Tronick (YouTube video)
 - Demonstrates how quickly and dramatically a baby responds to safety or danger situations

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Polyvagal resources

- Dr. Stephen Porges (polyvagal theory)
 - YouTube search "Porges compassion conference" (one of many fascinating speakers at the 2012 Science of Compassion conference available on YouTube)

- Rick Hanson, Hardwiring Happiness
 - Pre-order book for free access to interview series
 - Includes excellent interview of Stephen Porges and his Polyvagal Theory, Joseph Goldstein on mindfulness, and 5 other interviews. www.entheos.com.

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Attachment theory: Significance

- Attachment is about relationship strategies
 - Everyone has them
 - They fall into two basic patterns
- Helps us more quickly adjust our communication styles to match and enhance our relationships

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Attachment theory: Significance

- Teaches us about the basic nature of human relationship, especially
 - What people perceive as a relationship danger
 - How to comfort
 - How to communicate
 - A deeper understanding of needs

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Attachment and Genetics

- Attachment is primarily an environment/development theory
- Genes matter (temperament), but environment is more important, for example:
 - Environment can change the expression of genes (epigenetics)
 - Within a person, and inter-generationally
- Nature vs. Nurture, Nature and Nurture, GxE

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What is Attachment? (Crittenden)

- **Basic definition: Relationship with a person who can provide protection and comfort from danger**
- Childhood attachment involves development of:
 - Relationship focused on protection and comfort
 - Patterns of processing information about danger and comfort
 - Strategies for self-protection and comfort

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Attachment Theory

1. Children need communication strategies (coping skills) to engage caregivers to feed, comfort, engage, protect...
2. Infant self-protective relationship strategies fall into only 3 categories
3. Strategies mature with age, but initial strategy remains permanently encoded in inaccessible "implicit" memory (preconscious)
4. Self-protective strategies persist into adulthood
5. Relationship is filled with danger, especially during divorce
6. Most divorce "issues" revolve around maladaptive relationship strategies

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Attachment Theory: Development Overview

- Created by John Bowlby (1950)
- Mary Ainsworth
 - Strange Situation procedure (1963), (YouTube videos)
 - ABC model: only 3 strategies to deal with danger
- Relationship strategy established at 7-11 months
- Mary Main: Adult Attachment Interview (1984) and adult attachment model (older)
- Patricia Crittenden: Dynamic Maturational Model of attachment (modern)
 - <http://www.patcrittenden.com/>
- Hundreds of studies, thousand's of people, reliable results

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Parental communication in the attachment relationship

1. Contingent communication: Parent is present, attuned and resonates
 - Child's plea is understood and positively responded to by parent
2. Rejected communication (dismissed): Plea ignored/accepted reluctantly
3. Ambivalent communication: Plea accepted/rejected inconsistently

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Attachment: ABC Model

- Secure: Type B
- Insecure: Type A
- Insecure: Type C
- Insecure: Type A/C
 - Mixed or alternating type (Crittenden)
 - Described as Typed D, "disorganized" in old model (Main)

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Secure Attachment

- Type B = welcomed & understood, needs easily met, comfortable, confident, cooperative, flexible, balanced, good regulation of thoughts-emotions-behaviors
 - Parenting style typically welcoming, understanding
 - Involves "contingent communication"

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Insecure Attachment

- Type A = Dismissive, rigid, cognitive, sequential, narrowly focused, emotion/relationship avoidant, communication limited. (Narcissism is an extreme form.)
 - Parenting style commonly rigid, cold, dismissive
- Type C = Enmeshed, chaotic, affective, emotional, relational, broadly focused, cognitive/factual avoidant, communication excessive. (Borderline is an extreme form. Echo and Narcissus.)
 - Parenting style commonly chaotic, safety and comfort unpredictable
- Type AC & A/C = Alternating or combined of above. (Antisocial is an extreme form)
 - Parenting style commonly hostile, safety and comfort unlikely

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Adult Attachment

- Can stay in one category and mature
- Can move in and out of categories over lifespan
- Can move into more extreme categories
 - Adaptive in childhood, maladaptive in adulthood
- Predominate strategy in response to conflict
- May be, or look like, a personality disorder
- Resources:
 - Patricia Crittenden, Crittenden, P. M. (2006). A Dynamic-Maturational Model of attachment. *Australian & New Zealand Journal Of Family Therapy*, 27(2), 105-115. Crittenden, P. M., & Landini, A., (2011). *Assessing adult attachment: A dynamic-maturational approach to discourse analysis*. New York: W. W. Norton & Company.

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Adult Attachment Involves

- **Relationship with a person who can provide protection and comfort from danger**
- Patterns of processing information about danger, comfort and sexual opportunity
 - Relationship experience leads to perceptual patterns,
 - And biases in information processing
- Strategies for self-protection, reproduction, protection of progeny
 - perceptual patterns leads to action patterns
 - actions vary depending on situation and perception
 - extreme stress/deeper dysfunction leads to uniformity of strategy
 - un-integrated information/patterns may lead to over-reliance on past experience
- ABC model groups individuals around approach to relationship safety/danger, reproduction, protection of progeny
- Patricia Crittenden, *Assessing Adult Attachment: A Dynamic-Maturational Approach to Discourse Analysis*

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Attachment and Neurobiology: Implicit Memory

- Implicit memory: Unconscious way a child remembers a relationship strategy that protects them from danger
- Attachment relationship strategies encoded into brain memory:
 - Prior to language
 - Prior to adult memory skills
 - "Insecure" Very effective for an infant, maladaptive for an adult
 - Implicit memories never go away
 - Hard to access and gain awareness as adult
 - People can react and not know why
 - Can be recognized and managed (there is hope!)
- Trick is to gain "understanding of implicit world"

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Right-Brain Left-Brain Integrated Brain

- Right brain is highly consistent with Type C strategy styles
 - Broad focus on environment, emotional, nonlinear, see's many options but cannot pick any, relational, physically interconnected with body
- Left Brain is highly consistent with Type A strategy styles
 - Narrow focus individual parts, logical, sequential, picks one option and sticks with it, internal, physically interconnected with itself
- **Significance: Hemispheric Utilization bias**
 - McGilchrist, I. (2010). Reciprocal organization of the cerebral hemispheres. *Dialogues in Clinical Neuroscience*, 12(4), 503-15.
- Resources
 - Google "left right brain" for artistic depictions in "images"
 - Iain McGilchrist (Google "RSA mcgilchrist" for Divided Brain video)

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Two Patterns of SPS

Type A, Cognitive, Left Brain

Type C, Affective, Right Brain

- | | |
|---|---|
| <ul style="list-style-type: none"> • Rational, sequential • Linear, concrete, literal • Linguistic, verbal • Rigidly If-Then • Narratives thin details and no context • Narrowly focused on local parts and things • Finds parts, but no meaning in them | <ul style="list-style-type: none"> • Emotional, relational • Contextual, abstract, random • Metaphorical • Chaotic, confused • Narratives overwhelming emotion and detail • Broadly focused on environment, relations • Finds a meaning, not the parts |
|---|---|

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What's This Have To Do With Me?

- Adapt your approach to attachment strategies
 - What constitutes rejection/danger? Depends on style
- Be an attachment figure (limited re-parenting)
- Provide a safe attuned relationship (Safety)
- Reduce or avoid subjective perception of danger (Mastery)
 - "Fear is the shadow of danger" (Mark Baumann)
- Provide comfort ethically
- Communication style is critical
- Facilitate party decision making (autonomy)

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How Do I Do That?

- Can you put this information in terms of what you already know and do?

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Stay in Relationship

- Insecure based Self-Protective Strategies were functional as a child
 - Now they are not, and they tend to push people away
 - Even though the person is still hard wired to want to be in relationship
- How do you define "relationship" ???
 - A form of human connection
 - Subjective relationship that does not involve subjectively perceived precipitous drop
- Rejection is a "danger": "Relational devaluation"
 - Leary, M.R., Twenge, J.M. & Quinlivan, E. (2006). Interpersonal rejection as a determinant of anger and aggression. Personality and social psychology review, 10:2, 111-132.

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Relate to Cognitive Type A

- *Sequential, narrow focus, de-contextualized*
- Provide context
 - Start narrative from a different starting point
 - Reference outside authority (rule, expert, experience)
- Bring awareness of others
- Don't get warm and fuzzy, stay in relationship
- Don't shame ("It's not your fault, so let's investigate...")
- Let them be the expert (play dumb)

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Relate to Affective Type C

- *Emotional/relational, random, over-broad focus*
- Proactive boundaries
- Extra structure
- Provide extra facts
 - They may see "a" whole, but not a productive one
- Bring in awareness of sequence
- Emphasize predictable consequences
- Write it out to be concrete:
 - Time line, financial future, center column worksheet
- Be warm and fuzzy, stay in relationship

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Listening and understanding

- **Caring**
 - To understand, empathy, sympathy, compassion, altruism, warmth, kindness, delight in the other, relational bonding, loving presence, spirituality, neuro/psycho education
- **Observing**
 - Present, attention, intention, centered, fully in the moment to moment experience, description, labeling/languageing feelings with words, authentic
- **Curious**
 - Interested, playful, lean into the emotion and feeling, exploring
- **Openness**
 - Nonjudgmental, & non-attached, to someone else's experience, free from one's own internal evaluation, transparent, sharing your experience
- **Accepting**
 - Non-evaluative, Unconditional positive regard, of what is, validating, being affected with awareness and/or reduction of reactivity, accept thoughts and feelings without being "hooked"
- **Reflections**
 - Reflecting other back, micro-summaries, macro-summaries, conveying you "get it," reflecting on oneself and one's own feelings
- **NonVerbal** and unverballed awareness (most communication is nonverbal)
 - Prosody, facial & body gestures, implicit childhood &/or trauma memories

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Calm, Understanding, Present

- **Calm**
 - Non-reactive, balanced, neurally integrated, neutral and professionally distant, while being passionately engaged; not taking things personally; managing your own emotions and helping others manage theirs (Equipose)
- **Understanding**
 - Deeply, patiently, discovering what matters to the other
- **Present**
 - Giving your full attention; a way of being open, receptive, and ever emerging in our states of being as we connect with others and with our inner world; being with the other without fear, prejudice, genuine and authentic

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Mark's Pneumonic: Share a CUP of COCOA in Reno, NV

- Three necessary elements to promote relationship: CUP
 - **Calm, Understanding, and Present**
- The elements of safe-promoting listening: COCOA -RNV
 - **Caring, Observing, Curious, Openness, Accepting, -Reflections, NonVerbal** and unverbilized awareness
 - Observe and reflect on other and yourself
- When focus is needed
 - Power "O" (observation)
 - **Intentionally Center Attention Now** (ICAN) (Donald Altman)
 - Be here now (Tolle)
 - Effective when hooked or triggered to get back to COCOA
- Significance: Creates safety and it cascades from there - dominoes

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Facilitate neural integration with relationship linking and differentiating

Promote Safety, Mastery, Autonomy

- Step 1: Link by deeply understanding the person (safety)
- Step 2: Link by providing a safe & positive place to explore solutions (faux mastery, explore options)
- Step 3: Differentiate by safely providing logical feedback based on 2-pattern needs (true mastery, reality testing)
- Step 4: Integrate by facilitating choices (autonomy)

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Understand safety/danger drives for self-protective relationship strategies

- Multiple factors drive strategies and expression of strategies
 - Biological (genetic, epigenetic)
 - Neurobiological (ANS, neurites, neurotransmitters...)
 - Psychological (attachment, personality)
 - Relational (partner, family systems, work, culture)
 - Context
- Moore, R. J. (2010). Narrative empathy and how dealing with stories helps: Creating a space for empathy in culturally diverse care settings. *Journal of pain and symptom management*, 40(3), 471-476.

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IPNB elements for relational professionals

1. Understand safety/danger drives and self-protective relationship strategies
 - Accept and adjust to lower expectations for change
 - Maintain appropriate boundaries, while engaging in maximum relationship
2. Facilitate relationship being Calm, Understanding, and Present (CUP)
3. To promote neural integration, facilitate Safety, Mastery, Autonomy with relationship linking and differentiating
 1. Link by deeply understanding the person (safety)
 2. Link by providing a safe & positive place to explore solutions (faux mastery)
 3. Differentiate by safely providing logical feedback (true mastery)
 4. Integrate by facilitating choices (autonomy)
4. Create comfort & relationship by Listening with COCOA - RNV (Caring, Observing, Curiosity, Openness, Acceptance, while Reflecting on them and yourself, with awareness of NonVerbal and unverbalized communication)
 - "Power O" to focus: Intentionally Center Attention Now (ICAN)

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Conclusion

- Conflict behavior is driven by intense unconscious forces
- Reducing conflict involves brain/body-relationship integration by
 - reducing danger
 - providing comfort
 - staying in relationship

Materials and resources available at <http://markbaumann.com>

Mark Baumann
Rachel Hardies

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