

Reading: BRAIN; BIOLOGY AND DDP. Brain-Based Parenting by Jonathan Baylin & Daniel Hughes¹

'We're two aging therapists who've worked with abused children and adolescents for many years and are keenly interested in the neurobiology of attachment. We met a few years ago when we were both asked to work with a mental health facility that wanted to incorporate an attachment-based model of treatment in their work with highly stressed kids, teens, and their parents. This story of the new therapeutic path that emerged as a result of this collaboration starts, as so many do, with a failure.

There was one case at that time that Dan had found particularly galling. He'd begun providing treatment for a young mother, Rebecca, and her 4-year-old son, Eric. The family doctor described her as being a tense, discouraged mother, overwhelmed by her day-to-day responsibilities of caring for her son. Still, she'd seemed to want help for herself and her son, and agreed to see a therapist.

Yes, she said, when Dan did her intake---she was discouraged alright! And frustrated! Eric was impossible! Why wouldn't he just do what she asked? Why was everything a fight? Why wouldn't he play by himself when she just wanted to relax a bit? Why wouldn't he eat? Sleep? The list of complaints seemed endless.

By contrast, Rebecca recalled how happy she'd been when he was born. He needed her! He loved her! She didn't think that she'd ever felt as close to anyone as she'd felt to him. Certainly, she told Dan, she'd never felt close to her own parents. When they weren't fighting with each other, they were finding reasons not to be home. Neither had much time for her---they often left her alone for many hours, even at night. But after a while, she got used to it, she said with a shrug, and really didn't mind anymore. Then one day she met Billy---he really wanted her and, for a while, the sex with him made her feel loved. And then she had Eric and she truly felt more love for another human being than she'd ever felt before. But as he grew from a baby, who slept much of the time, into a toddler, he wasn't always so rewarding to be with anymore. He cried and flailed his arms and legs, resisting all her efforts to comfort him. This made her feel helpless, overwhelmed, angry, and stressed out. Her initial loving feelings began to fade, suppressed by her anger and sense of being chained by parenthood to this small, ungrateful boy. When Eric wanted her attention, she began to tune out, using her old childhood strategy of shutting out the world and numbing her feelings. Gradually, Eric stopped seeking her attention, which was just as well. She'd find reasons to drop him off at her mother's home so she could have time by herself or with her friends. Eric didn't seem to mind, but it puzzled Rebecca that her mother apparently enjoyed Eric more than she'd ever enjoyed her.

Dan was pleased and hopeful after his first few sessions with Rebecca. She demonstrated some genuine sadness about her degenerating relationship with Eric and even appeared to understand how being ignored by her own parents might have something to do with her struggle to parent her son effectively. She was all attention when Dan told her that her son needed her attuned interactions, and that if she related with empathy while she set firm limits, he was likely to begin to cooperate with her and accept her authority. However, she rarely seemed to put Dan's suggestions into practice, and kept bringing in the same problems week after week. Dan began to feel disappointed and discouraged. Soon, Rebecca started saying resentfully that Dan's ideas "weren't working" as she grew even more frustrated with her son's unimproved behavior. She hinted that maybe Dan's advice was off-base, that he might be missing something and didn't really understand Eric's intensity. Furthermore, she began to suspect that Dan was beginning to be disappointed in *her*---even suggesting perhaps that *she* wasn't trying hard enough! When she asked him one day if medication might be necessary for her boy, Dan's frustration became clear to them both.

Finally, the session came when Dan asked why she'd reacted with so much anger instead of empathy when her son screamed at her. The tone of Dan's voice conveyed his impatience with her, as did his message that, by now, she should've been responding to her son the way he'd tried to teach her. Dan began to dread his sessions with Rebecca and, after a couple more of these stalemated meetings, she stopped coming. Her son went back to live at her mother's house. She went back to her defeated sense of resigned failure as a competent mother with a happy child. And Dan went back to looking for parents who would appreciate what he had to offer.

The Journey Begins

At about the same time that Rebecca stopped coming for her sessions with Dan, he and I began to explore together the practical clinical implications of all the interesting new brain research for the work we were already doing with traumatized children. We are both steeped in the model of interpersonal neurobiology developed by Allan Schore and Daniel Siegel and felt we had a good grasp on the struggle that neglected and traumatized children faced in making the shift from mistrust to trust. We knew the attachment research clearly linked the development of secure attachment to the quality of caregiving the kids received---to connections with what Schore called a

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“psychobiologically attuned caregiver.” In short, we knew what these hurt kids needed from their caregivers: the ability to stay engaged and open with them, especially when the kids were “going defensive” and resisting the closeness they so much needed, but instinctively avoided.

As we focused more on the new perspective attachment theory and interpersonal neurobiology were opening up on failed cases like that of Rebecca, we began to look at parents in a different way. Early one morning, we had a shared epiphany---we finally realized what we’d “known” for a long time: parents’ brains work the same way that their children’s brains work! Just as a child has to feel safe to approach a caregiver, a parent has to feel safe to approach and trust a therapist. Parenting isn’t a cookbook activity for managing children’s behavior, it’s an ancient mammalian mind--heart process that allows the caregiver to stay engaged and regulated enough to sustain the mind-to-mind, heart-to-heart connections that are vital for the child’s development. Parenting is rooted in openness and safety, not in survival-mode self-defense. So, we wondered, what does it really take to be a sensitive, attuned caregiver and to sustain a parental state of mind through the thick and thin of childrearing? Why can some parents provide the warmth, openness, and empathy that helps kids thrive, while others, despite having the best intentions, start to shut down and get defensive when their kids roll their eyes or sass them. What is parental openness, anyway, and how does a parent develop and sustain it? As we talked, the concept of parental blocked care came into focus as a shorthand way of describing the suppression of parents’ potential to nurture a child, especially if the child is slow to reciprocate warmth and love.

We realized, then, that just as our awareness of attachment and its neurobiological foundations informed our practice with children, understanding the neuropsychological foundations of caregiving would make us more effective therapists with their parents. First, we needed to learn what actually goes on in the parenting brain. Then, we needed to understand how stress affects the parenting brain and sometimes leads to blocked care. With a brain-based model of parenting and blocked care, we hoped to get better at helping stressed-out parents get unstuck and tap their potential for caregiving.

The Healthy Parenting Brain

So, what does well-functioning brain-based parenting look like? It looks something like Sarah.

Sarah, mother of 12-month-old Vincent, is watching two different videos of her son while having her brain imaged. In one scene, Vincent is laughing gleefully as Sarah blows big, wet bubbles at him. In the other, Vincent is crying because Sarah has just left the room. As Sarah watches Vincent as a happy baby, parts of her left hemisphere, including regions comprising her pleasure system, especially the nucleus accumbens, light up on the imaging screen. This left-brain system is keeping Sarah in her brain’s Approach mode, fully engaged with Vincent, and is activating her brain’s Reward system as well. Although we can’t see it on the screen, chemicals such as oxytocin and dopamine are flooding the limbic regions of Sarah’s brain as she looks at her laughing baby. At the same time that the oxytocin and dopamine in Sarah’s left brain activate her Approach and Reward systems, it’s going to the amygdala on the right side of her brain, calming her threat-detection and self-defense system. Oxytocin is like anti-anxiety medicine, helping to keep the parent’s defense system “OFF” and the approach system “ON,” which is the real secret to staying parental toward your child.

In brain terms, Sarah is using what neuroscientist Stephen Porges calls the social engagement or “smart vagal” system, that connects Sarah’s brain to her heart, lungs, voice, face muscles, and even hearing, allowing her to attune to Vincent’s communication and be expressive in her response. This is the neural system that enables parents to stay open and engaged enough with their children to develop the kind of robust connections and meeting of minds (“intersubjectivity”) that are so uniquely human---the hallmark of healthy, enduring, bonded human relationships. With her defense system “off,” her Approach and Reward systems “on,” Sarah uses areas in her temporal lobes that are dedicated to reading emotions from facial expressions and gestures and to processing the pitch variations in the human voice, remaining exquisitely attuned to Vincent’s internal states. She’s also using her “mirror” cells to psychologically mimic her son’s reactions and help her to experience what he’s experiencing. Meanwhile, Sarah is having loving thoughts about Vincent tied to her rich narrative about being his mother. Since becoming a mother, she’s been using her brain’s Meaning Making System to construct strong beliefs about the value of parenthood and the personal meaning of having Vincent in her life. Her own attachment history has contributed greatly to the meaning she attributes to these interactions with her son, as do Vincent’s responses. These meanings---created with the help of the uppermost region of Sarah’s brain, her dorso-lateral prefrontal cortex---enable her to hold steady and provide sensitive, predictable parenting even when her child is upset, whiny, and resistant.

When Sarah watches the scene of Vincent in distress, parts of her brain on the right side, which are associated with responding empathically to a loved one’s pain, become active. Now, different chemicals, including one much like adrenaline, are spurting into regions of her brain that ramp up her parental vigilance, making her intensely aware of Vincent’s distress. Her anterior cingulate cortex (ACC) becomes active, in conjunction with the insula or “visceral brain,” helping her feel Vincent’s pain and causing her to experience a compelling urge to comfort him. The ACC

serves as a neural bridge between the limbic system and the higher regions of the prefrontal cortex---the Executive System that support adaptive thinking, planning, self-monitoring, and conflict resolution. Here we're seeing the "call and response" system at work, with Vincent's attachment system "on" and Sarah's caregiving system robustly responding. We're watching the healthy parenting brain in action.

Vincent is a lucky child whose brain is thriving from interacting with Sarah, an adult who has the brain capacity to feel safe with him through thick and thin; experience pleasure from being with him much of the time; read his "mind" well and attune to his inner life; construct a positive, coherent narrative about being his parent; and regulate and recover from the inevitable "unparental" reactions effectively.

Parenting well, as in Sarah's case, involves five different, highly interactive brain systems that we call the parental Approach, Reward, Child Reading, Meaning Making, and Executive Systems. Through the integrated functioning of these systems, Sarah and Vincent will continue to synchronize the beating of their hearts, their breathing, and even the firing of brain cells in their limbic systems.

The Effects of Stress on Parental Care

As we thought about Sarah and how parents are likely to be functioning when they're able to use their five integrated brain systems to engage fully with their children, we reflected from a brain-based perspective on some of our recent sessions with parents who weren't so well engaged with their children.

Like Sarah, Rebecca had initially experienced a strong desire to be with her infant son and felt pleasure in providing for his care. Oxytocin was being released in her brain at his birth and when he gazed into her eyes while she held him in her arms and swayed as she hummed to him. This led to the release of dopamine, and she enjoyed being with him and anticipated further pleasure from their interactions. Yet these systems of parental Approach and Reward weren't all that robust because they hadn't been strengthened enough when Rebecca actively sought to connect with her parents as a child. When her expectations of positive interactions were "violated" by Eric's negative response to her "offerings," her dopamine system began to crash, causing her to feel rebuffed, frustrated, and angry. After a while, she learned to turn off this reward-expectancy system, becoming more distant as a way to protect herself from the intensely negative feelings of being rebuffed.

Rebecca's Child Reading system---her intense interest in the moment-to-moment interactive experience of mothering-- was also active during the first few weeks after Eric's birth. As the stress of child-rearing intensified, however, she became hypervigilant for any signs of distress, anger, or rejection in Eric's facial expressions, body language, and sounds. The smallest signs of anger in her son's eyes or voice were enough to trigger her amygdala to set off the defensive reactions that were already primed to be released. This threat-detection system is activated within a tenth of a second, so Rebecca found herself becoming defensive without knowing what triggered it. The stress of child-rearing, intensified by her own history, constricted her child-reading process and biased it toward negative perceptions, leaving her feeling rejected by her infant.

Rebecca's Meaning Making system was already weak because of the lack of positive meaning in her own experience of being raised by her parents. When she now began to feel rejected by her son, she was prey to negative thoughts about him, herself, and the entire enterprise of parenting and caring for her child. She defended against her feelings of shame and discouragement by tuning out Eric's needs, which suppressed activity in higher brain regions that would have enabled her to reflect positively on being a parent, recall positive parent--child experiences, and construct newer narratives while engaging with Eric. The stress-based meaning construction that Rebecca was engaging in is similar to trauma-based processes that suppress activity in the left hemisphere, especially in the regions used for generating speech and editing our stories. This is why Rebecca's emerging parental story was so resistant to change.

Finally, Rebecca's defensive state---triggered by a failure to experience pleasure, interest, and positive meaning around her child---impaired her capacity for self-regulation, her Parental Executive system. This effectively shut down the higher regions of the brain that she needed in order to put the brakes on "unparental" feelings and actions. As a result, her conflict-detection processes were suppressed, which blocked her ability to sense her misattunement with Eric and make adjustments to repair the connection. With diminished executive capacity, Rebecca failed to pay adequate attention to her child and to the relationship, and thus was unable to regulate her emerging negative reactions to him.

As we came to better understand Rebecca's reactions to her son, we began to realize that Dan's reactions to Rebecca had mirrored those of a parent experiencing blocked care. Dan's Approach and Reward systems began to weaken when Rebecca failed to consistently respond to his care. His child-reading system gradually began to take on a negative bias, while the meaning that he came to give to his treatment of Rebecca became increasingly pessimistic, restricting his own sense of possibility for her. He began to reflect less on Rebecca's treatment, which meant not

perceiving the reasons for her lack of response to the treatment. The same process that had been occurring between Rebecca and Eric had occurred between Dan and Rebecca in the early months of treatment.

Restoring Parental Care

Just as knowing the neurobiology of bonding and attachment had made us less likely to blame children for their behavioral struggles, understanding the neurobiological foundations of parental caregiving helped us to stop blaming parents who weren't attuning to their kids. Applying the concept of blocked care, we began with the assumption that insensitive parenting is often linked to stress and deficiencies in key brain systems, including the dopamine and oxytocin systems. Parents with blocked care may want to like and enjoy their children, but don't know how to activate the "good chemistry" that would enable them to do so. Understanding the neurobiological causes of blocked care helped us become more open and empathic to parents' negative experiences and stories, more willing to listen and validate their experiences.

Since we now knew that the parents were using similar brain systems to those of their children as they struggled to connect with their kids, we thought that the same therapeutic interventions we used to engage children and create a sense in them of "felt safety" with us might also work with highly stressed parents, especially in the early phase of family-focused treatment. Why not put aside our agendas of *changing* parents' behavior long enough to provide a safe space for them to express their own needs for connection and activate their attachment functioning? If we wanted parents to provide for their child, we needed to provide first for the parents.

The paradox of integrating complex information about the brain, with all its multi-syllabic terminology, into treatment is that it actually heightens the importance of open-heartedness and safety as a precondition for change. Parents with blocked care first need the intense support of an empathic therapist to venture into the realm of forbidden feelings. But what the brain-based perspective also makes clear is that this kind of therapeutic work takes time because it requires not only bringing up challenging feelings, but also helping parents strengthen the brain systems that support more productive processing of emotions and thoughts. Therapy must address the neural underdevelopment of the Parental Executive system in these parents. Otherwise, attempts to get the parent to bring up and stay with difficult emotions and to trust the therapist will probably fail as the parent defaults to lower levels of brain functioning and goes "defensive."

The stressed-out adult is parenting in survival mode, using primarily the lower, more primitive brain systems that are dedicated to day to day existence. Such parents need to calm the overreactive limbic and stress-response systems and tame the amygdala before they can awaken the prefrontal cortex. In short, we must help them dial down their automatic defensive reaction systems before they can access the higher brain systems needed for self-reflection, emotional regulation, and empathy.

Brain-Based Parenting in Action

So what difference does incorporating this perspective make in the immediate experience of therapist and client in the consulting room? Jon had seen Susan and her daughter, Kayla, 13, before in joint sessions and found himself siding with Kayla and disliking Susan. Now, armed with our model of blocked care, he met individually with Susan, determined to put this newer understanding of parenting into practice. As the session began, Susan's facial expression was flat and she held her body rigidly, as if ready for a fight. Despite his intentions, Jon began to feel himself tensing up and starting to move away from Susan. But before shifting into a full-blown defensive state, he caught his reaction and started breathing slowly to release his tension, regain his focus, and open himself more to her.

Susan was well into a long complaint about how selfish, ungrateful, and disobedient Kayla was, but as Jon started to engage his own Approach system and open up to her negative story about the miseries of being Kayla's mother, he felt more accepting of Susan and the validity of her experience. As his face and body language became more open and relaxed, he noted that her face began to relax and her shoulders dropped. Jon, mirroring the shifts in Susan's face and body, found himself feeling closer to her, as if an invisible barrier between them were melting away. He was able gradually to look deeply into Susan's eyes, where a softening effect was apparent, signaling the lowering of the chronic vigilance that had lined her brow.

Feeling interested now in Susan's story, Jon asked her to describe the triggers for her intense anger toward her daughter. She quickly replied, "Her stuck-out lip and that 'whatever' tone of voice. Makes me want to strangle her!"

"How have you kept from doing it?" Jon asked, truly curious to know.

"Sometimes, by locking myself in my room until my murderous feelings have passed," Susan replied.

Jon nodded sympathetically, and said, "Somehow, you found the strength to get past your angriest feelings without actually going after her."

Blocked care involves the shutting down of the parts of the cingulate where emotional pain registers as part of a parent's empathic response to a child's distress. If Susan was going to recover from her blocked care, she'd have to reopen the pathways in her brain that would allow deeper, more vulnerable feelings to rise into consciousness, the very feelings that she'd learned to suppress in self-defense.

In a quiet tone, Jon asked, "Susan, what was Kayla like as a baby?" After being silent for a moment, she began to cry softly.

"She was beautiful, perfect. Everything I'd hoped for," Susan said brokenly. She went on to describe the loving feelings she'd experienced in those early days and weeks, clearly remembering them for the first time in many years. Jon instinctively leaned closer to Susan, with some tears of his own welling up. At this point, he felt a level of attunement with her that he hadn't been close to experiencing previously. Now he had to try to keep this small window of connection open.

Just as a parent needs to help a child regulate strong emotions and learn to "feel and deal," Jon needed to stay present to Susan's internal struggle to tolerate the conflict between her desire to have a loving relationship with Kayla and the defensive, self-protective wall she'd built to keep from feeling the pain of rejection and the sense of failure as a mother. "Maybe it's hard and good, at the same time, remembering those loving feelings," Jon said.

"Yeah, good and hard," Susan said with a slight smile. "Or maybe you just like making people cry."

"Well, it used to bother me, but now I feel like I'm not really earning my keep if there are no tears," Jon joked gently.

Susan looked briefly into Jon's smiling eyes and seemed to feel a bit of lightness herself, before she turned away and sighed.

With the brain model of blocked care as a guide, Jon had a roadmap for slowing himself down, taking the time to help Susan awaken the underused Approach and Reward systems she'd need to reconnect with Kayla. Jon would continue to build upon this tentative trust-building process with Susan, postponing a more cognitive agenda focused on parenting skills until she was ready for it. First she needed the chance to get her parenting brain systems working again, particularly the executive ability to regulate the old negative feelings, thoughts, and impulses that would inevitably be reactivated when they began meeting with Kayla.

Taking the Next Step

Once Jon saw signs that Susan was ready and able to move outside her rigid, defensive patterns of interacting with her daughter, he invited Kayla to join Susan for family sessions. By then Susan's anger was less easily triggered and the next step was for her to learn to listen to her daughter more openly and less judgmentally. In the first session, Susan clearly struggled not to lose it as Kayla resentfully told her mother, "You yell too much and you never want to hear my side of the story." Looking at Jon a little desperately, Susan said, "What do we do now? This is usually when I go ballistic."

The bond that Susan had begun to develop with Jon—her sense that he understood her and was truly on her side—was now crucial to her able to shift her response to her daughter. As Susan looked at him, she seemed fortified by his nonverbal support. Calmly, slowly Jon, said, "If it feels right to you, Susan, maybe now's the time to tell Kayla that you're sorry you haven't been listening to her and that you really want to understand her better; that you love her and want to be closer." Susan took a deep breath and turned toward Kayla. Tapping into the caring feelings she'd been recovering in therapy, her voice quavering a little, but warm, she told Kayla that what Jon had said was true.

"I really want to know what's going on with you and I'm sorry for the times I haven't listened to you. But I'm going to try harder---I *do* love you very much, and I really want us to be closer." At first, Kayla looked doubtful, but she instinctively moved nearer to Susan on the sofa and snuck a peek at her mother's face, just enough to see the softening in Susan's eyes that accompanied the softening of her voice. Kayla's face then began to soften, too, as she mirrored Susan's caring expression. "Me, too, Mom," she whispered, without the slightest trace of teenage disdain. There was still much work to be done—this kind of interaction would need to happen again and again. But in that moment, Jon, Susan, and Kayla all shared a wordless sense of hope.

Perhaps the real lesson in all this is that all of us---children, adults, and even aging therapists---are, to one degree or another, creatures of our limbic systems. All of us respond better to an approach encompassing playfulness, acceptance, curiosity, and empathy, conveyed with genuine smiles, soft eyes, gentle voices, an open posture, and a figurative hand held out in support. Few of us respond well to closed faces, defensive posturing, annoyed voices, or judgmental eyes. But as therapists, we have the responsibility to consciously rise *above* our limbic systems, to become the adults---even the parents---in the room, until we've managed to help our clients access their own better, more adult, more parental selves.

PARENTAL COMPASSION AND ATTACHMENT FOCUSED TREATMENT: Why it is crucial to help parents resolve their ambivalence toward the mistrusting child²

The key to helping children with blocked trust learn to trust when they come “into care” is having new caregivers (and therapists) who deeply understand blocked trust and can use this understanding to resolve what otherwise can easily become chronic ambivalence towards the child. This ambivalence is a natural tension between an adult’s initial loving intentions towards the child and the inevitable feelings of disappointment and discouragement that come along with the experience that “love is not enough” to promote a quick shift in the child from core mistrust to trust. It’s not enough that the adults avoid “blocked care”. They have to be able to sustain a robust level of compassion towards the child if they are going to provide the child with the kind of relational experiences over time that can scaffold the child’s journey from mistrust to trust.

Therapists working with carers (caregivers) and children with blocked trust need to deeply understand the dynamics of blocked care and know how to help adults work through and resolve their ambivalence towards the child. Neuroscientists have shown that our emotional brain, our limbic system, and very specifically our amygdala, responds strongly to ambiguous facial expressions and incongruities between the literal meaning of words and emotional qualities of another person’s voice. The amygdala reacts to incongruities in social signals because part of its job in our brains is to launch a process of “disambiguation” to quickly figure out what we should do about the “thing” that is sending ambiguous messages. The human amygdala evolved to be especially sensitive to ambiguous social messages because our communication is complex, especially when our words don’t match our nonverbal signals.

Children with blocked trust have hypersensitive amygdalae and are very biased towards appraising anything ambiguous in another person’s communication as negative, as threatening. This is what neuroscientists call the “negativity bias”, a form of the brain’s survival mechanism, as in “better safe than sorry”. Children exposed to threatening environments early in life were typically exposed to high levels of ambiguity in which they were confronted with conflicting combinations of positive and negative facial expressions and tones of voice and gestures from adults. They had to use their young brains to learn to disambiguate these mixed messages in milliseconds in order to “decide” what to do, whether to approach or avoid, engage or defend. This means that a crucial aspect of blocked trust is the child’s bias towards automatically treating ambiguity in other people’s communication as a threat. The child’s social defense system, grounded in the neuroceptive process of reading social cues within a tenth of a second to determine the level of threat or safety in these cues, leads the child to reflexively, mindlessly mistrust an adult who is sending ambiguous, incongruous signals.

When the caregiver is having very mixed feelings towards the child based on an internal conflict between good intentions and negative feelings stemming from the child’s mistrust, the caregiver inevitably gives the child “mixed messages”, ambiguous messages in the form of fleeting negative facial expressions or tones of voice that belie the content of loving words (“trust me”, spoken with sounds of defensiveness or anger). In turn, the child’s mistrusting brain automatically responds more strongly to the negative parts of the ambiguous message than to the positive aspects of the adult’s communication. Consequently, the adult’s ambivalence promotes further mistrust, reinforcing the child’s preexisting negativity bias and making it even harder for the child to learn to trust the adult.

Implications for Attachment Focused Treatment: Parent Work, PACE, and Conflict Resolution. With an understanding of the effects of parental ambivalence on the child’s mistrusting brain, it is clear that therapists need to help parents address and resolve their natural ambivalence. This means making it safe for the parents to reveal their mixed feelings to the therapist so there can be a safe enough process for “working through” this ambivalence.

²A brief paper written for the DDP Network Library by Jonathan Baylin, PhD, July 2015