Real-Time Treatment: Integrating Neuroscience and Psychoanalysis in the Intensive Treatment of Emerging Adults

By

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April's debut night in the Yellowbrick Residence was memorable for all involved; she had sexual encounters with two of the male residents, a third young man she also just met that day in our Intensive Outpatient Program, and his three roommates! Why, you might ask, did we not discharge her immediately, sending her to a more restrictive therapeutic environment where such behavior would be controlled and prevented? After all, April had gotten herself kicked out of every treatment program she ever entered. She was 22 years old, raised on the North Shore, a college drop out, with a history of serious alcoholism and other substance abuse, compulsive sexual addiction, and wearing a scarlet "B" for an Axis II diagnosis, as she headed down the road to destroying her self regard, her relationships, and her capacity for hope.

So, why didn't we kick her out after that first night… or the next time she exploded the limits? That is what I am here to talk to you about today… a model of treatment that seizes such a seminal moment as the perfect opportunity to re-network April's brain… actually rebuild and reconnect the neural circuits for self-organization and function, secure attachment, and effective life skills. It is a Developmental Neuro-Psychoanalytic model for intensive treatment of severe psychopathology in Emerging Adults. I will present the theoretical and scientific basis for each element of this model, as we developed it at

Yellowbrick, by following April through subsequent, and much more meaningful, relational moments in her treatment within Yellowbrick.

As an emerging adult, April is in a developmental period of great risk and also of great potential. Developmental psychologist and researcher Jeffrey Arnett was the first to identify the period between ages 16 and 29 as a distinct developmental phase and to term it Emerging Adulthood, the age of possibilities. Arnett's decade of research in normal development identified the 5 primary features of this period as: 1) the age of identity exploration, especially in love and work, 2) the age of instability in all areas of life, 3) the age of feeling in-between adolescence and adulthood, 4) the most self-focused age, and 5) the age of possibilities and opportunities to create the future. As a normal part of this developmental period, the emerging adult is experimenting with everything…from drugs and alcohol, to sexual partners, to lifestyle patterns, to career opportunities, to social and political identities…literally every aspect of their lives is in transition, becoming... Think for a moment about your own life… what were you doing during college? Was anybody else with me at Woodstock?! If you say you remember Woodstock, I know you weren't really there!

Emerging adulthood is also the age when risk factors are highest… drug and alcohol misuse, unwanted pregnancies, suicide as the second leading cause of death surpasses only driving accidents. 75% of all major psychiatric illness begins during this period. 18% (6.4 million) of 16-25 year olds are diagnosed with major psychiatric illness and 7% are seriously functionally impaired. Of those with emotional and behavioral difficulties, the risk of failure to complete school is 14 times greater; the rate of being out of school and unemployed is 4 times greater; the risk of illegal activity is 3 times greater; and the risk of pregnancy is 6 times greater than their peers.

Emerging adulthood is a window in human development combining great risk and even greater possibility. Going beyond our own clinical wisdom and empirical experience, new neuro-imaging technologies inform us that there is another generation of synaptic sprouting and pruning in the areas of the brain linked with self-regulatory functions that occurs during this time of life ( ). While psychopathology from early life experiences may be in full force, unlike in earlier adolescence, brain maturation in emerging adulthood is bringing new resources to the challenges of self-organization and psychic integration. This makes emerging adulthood an ideal time for psychotherapeutic intervention; a time when a young person like April can have the trajectory of her entire life redirected. Gunderson ( ) and recently McGlashan, et.al. ( ) have also demonstrated that aggressive intervention for severe personality disorder leads to better outcome and course in the treatment of co-morbid Axis I mood disorders.

Effective treatment of troubled emerging adult patients, such as April, requires that we do so in their world, standing alongside them, experiencing with them where and when they struggle, suffer, and are dysfunctional. The asylum (go away and get better) concept for programmatic treatment of emerging adults recapitulates an "as-if" power-based type of relatedness. It engages a developmental impasse regarding how to resolve dialectically opposing needs for both autonomy and connectedness by eliminating real-life, real-time choice. As a result, asylum treatment does not facilitate the depth of attachment, emotional immersion and the neuro-synaptic activation required for deep and enduring change in self-organization.

Jennifer Tanner conceptualized a developmental systems model of emergent adult development she calls "Recentering". According to Tanner, developmental research shows that during emerging adulthood there is a shift away from family and neighborhood and toward greater individual identity, personal responsibility, personal power, self-regulation, and self-agency in the larger community and society as a whole. This is where we choose to work with April, to help her co-create her emerging world. We find Gedo and Goldberg's model most helpful in guiding us in this process.

Gedo and Goldberg's Developmental Arc of Self-Organization

In Models of the Mind (1973), Gedo and Goldberg present a hierarchical model of intrapsychic development and self-organization. They identify 5 levels of developmental "aims", "modes" of functioning, dangers, primary defenses, and corresponding empathic therapeutic interventions. Gedo and Goldberg break with established psychoanalytic theory in recognizing that the more archaic modes of functioning are not merely reflections of wishes which can be interpreted away; they represent actual needs within the current level of the patient's self-organization and self-experience, and require a creative, empathic therapeutic response in order to repair and restore the patient's self-organization. Gedo and Goldberg declare that this is not merely to prepare the patient for the real work of treatment, it IS the work of treatment even in psychoanalysis.

Let us consider such a crucible moment about 4 weeks into April's stay at Yellowbrick. April told her apartment mate that she was bringing, to The Residence, a young man she met two days earlier at an AA meeting and that she planned to have sex with him. Her roommate was upset by this for a number of reasons and told one of the Residence Resource staff. Residents know that, while we safeguard their privacy, there is no confidentiality within the Yellowbrick community. All communications are

considered to be within the public realm. It is especially the case that there are no secrets when it comes to symptomatic or unsafe behavior, or issues that affect others, including emotionally, within the community of residents. From a theoretical perspective, this community component of our treatment model addresses not only the obvious trauma-related issues related to boundaries and secrets, but is also instrumental to the process of mentalization. The construct of mentalization, was introduced by Fonagy ( ), as the capacity to conceive of the mental life of self-in-relation to others. We consider mentalization vital for healing and growth.

The Resource staff person communicated April's plans that same day at 2:35 PM in the daily Clinical Conference where all professional staff meet together. April and her beau were planning to meet at 3 PM! At Yellowbrick, real-time sometimes means real fast! As would be the case with a caring parent, we were aware of the impulse to invoke our authority and step in with strong limits, preempting her plan by confronting April and preventing her from using "our" Residence for such purposes. We resisted this natural impulse, however tempting, as the Yellowbrick model specifically seeks to hold the dialectical tensions of these spontaneous emotion-filled moments and to avoid foreclosing their outcome. That would also pre-empt neurobiological re-networking. Instead, we chose an intervention born out of our understanding of the evolving principles of neuro-scientific studies on relational learning. Studies show that new learning takes place most robustly in the context of secure relationships and states of heightened, but not traumatic, arousal within which individuals have real choice and real responsibility (cite Siegel and Schore?). We utilized our understanding of April in this precise moment and, calling upon Gedo and Goldberg's model, responded in the hope of unifying April's self-organization and enhancing the potentials to re-network her brain within that experience.

The discussion in Clinical Conference explored how April had begun to feel genuinely cared for and connected with her female individual therapist. She was beginning to allow herself to experience long warded off grief over the loss of her mother who died of cancer when she was a senior in high school. April's relationship with her Mom had been very difficult and angry in the years prior to Mom's death, leading to subsequent guilt and, in our view, self-degrading and punishing patterns of behavior. Her Mother, in April's experience, viewed her as "a bad girl". We understood that April's yearning for her Mother was activated in the treatment and that she was pathologically in pursuit of the experience of connection to her Mother through this planned sexual encounter.

This connection would help to stabilize the grieving and strained self-organization, and provide a type of self-coherence, but with a pathological twist. By pursuing the need for closeness with her Mother through an anonymous sexualized form of self-unification, tragically, April would also reinforce the negative identity from that period, in her life with her Mother, when she consolidated the shameful bad-girl identity. A prohibitive and judgmental response by Yellowbrick would have reinforced the same negative self experience and identity. April needed not to be prevented from having sex, but to be provided an internalized motivation for self-restraint in the form of a mother's respectful, hopeful love and holding containment.

So here's what the Yellowbrick sex SWAT team decided to do. A female senior clinician, other than her individual therapist, was dispatched to The Residence to meet with April initially and then with her and the young man upon his arrival**.** The plan was to leave the ultimate decision to them but to speak with them about the meaning and feelings involved for each of them in their choices. They would specifically

discuss April's misuse of physical intimacy in seeking emotional intimacy and how that degrades her self and leads to later self-condemnation.

When April met with the clinician, she initially protested vehemently but eventually experienced and understood the caring nature of the intervention. While she retained the privilege as to who could and could not come to visit her in her apartment she had a responsibility to first respectfully (mentalization) fulfill certain obligations to herself and the community. She was requested to call the man and tell him that he would need to join her in a meeting with the staff person before visiting in the apartment. It was much like parents asking to meet a man before their daughter goes out for a date with him. April was very motivated to have the visit so she agreed and placed the call.

What do you think happened? The young man said he had already decided it was wrong, against AA guidelines, and demeaning to them, their relationship and to their recovery. April burst into tears and sobbed; this was a resumption of the warded off mourning for her Mother. Now she could share, and receive comfort and understanding for, from the senior female staff member because of the process they had just been through together. While not immutable, we believe there is evidence that this experience has been transforming. April has not had an impulsive sexual encounter with anyone in the 10 weeks since, despite impulses to do so, which we believe represents a new development in the structure of April's mind-brain.

This Real-Time intervention took place within a larger treatment context at Yellowbrick which is founded on Gedo and Goldberg's model of psychotherapy for the three most archaic modes of psychic organization, namely, therapy via pacification, unification, and optimal disillusionment (Gedo &

Goldberg, 1973, p.). This establishes a necessary foundation in the treatment of traumatized, neglected, and self-abusing young adults. The Residence provides safe and caring attachments which offer a sense of membership and belonging, a structuring (as opposed to structured) environment which promotes self organization and self care, and a community where all of who they are is embraced, affirmed and validated on an ongoing basis. With The Residence as a foundation, emerging adults make deeper use of the core group program and other therapies.

This is again illustrated by April. She experienced a catharsis in, of all places, Wellness Group, where the topic was "The Healing Power of Love". The group was discussing research findings that very sick people, even cancer patients, have better prognoses and life expectancies when they are surrounded by love and support. When she heard this, April burst into tears and, with help from the group therapist and the other residents, was able to verbalize that she felt she had killed her mother by being "such a bad girl" when her mother was dying. She wept and wept and the whole group comforted (pacified), her. The group therapist reframed her acting out as the derailing, due to the trauma of her Mother's illness, of the natural developmental process of being an adolescent, full of life. Let's go on, now, to the neurobiological substrate of the work we have been describing with April.

Developmental Neurobiology of Self-Organization

Advances in the neurobiology of interpersonal experience (cf., Daniel Siegel, 1999) show that the brain forms its neural connections within human connections. That's right! In Siegel's words, "Human connections shape neural connections". The development of synaptic networks, which is how the brain expands and sustains the architecture for new learning, occurs within the context of relationships. The brain, not just the heart and soul, needs emotional relationships to grow. According to Allan Schore

(2003), it has been demonstrated that it is built into our DNA such that primary caregivers act as psychobiological regulators of hormones that directly affect gene transcription.

Studies of the effects of trauma and abuse on the developing brain mirror our clinical experience. The overactive fear circuits of the amygdala have been shown to undermine the development of the orbito-frontal systems associated with healthy self-soothing during attachment experiences. For example, in f MRI studies, severely neglected and traumatized Romanian orphans ( ) have "hot amygdalas" which flare with subsequent separation and abandonment experiences. Research also shows that the brain is capable of storing attachment traumas in the right-brain's sensorimotor, affective memory systems, completely split off from the as-yet-undeveloped left-brain's verbal reasoning processes (Gaensbauer, 2002, p. 259; Joseph, 1982, p.243; Schore, 2003, p.74-75). These response systems remain vigilant to possible abandonment throughout life and produce a myriad of emotional, psychological, neuro-chemical, psycho-physiological and behavioral deficiencies and compensatory mechanisms.

Neuro-imaging studies show that traumatic emotional memories activate (Rauch et al., 1996), and are recalled through (Schiffer et al., 1995), predominantly right hemisphere operations. Hippocampal damage in abused individuals is associated with the clinical findings of impairment in affective and memory integration (cite?). There are many such psycho-neurobiological implications involved in working with individuals with seriously troubled and traumatized histories. Our clinical challenge is to creatively harness the therapeutic leverage that is available through the neuro-plasticity of the emerging adult's brain.

April's depression, anxiety and symptomatic misbehaviors create destabilizing and rigidified closed-loop, or "short-circuits", within the brain. These must be interrupted in order to facilitate the other efforts to establish human relatedness that is required for emotional and dendritic growth. Aggressive pharmacologic treatment, to remission, of carefully diagnosed Axis I conditions, including sleep disorders, is a cornerstone of our neuro-psychoanalytic model. The fearful, depressed or sleep-deprived brain cannot engage, connect, or sprout new learning circuits. This view also speaks to the necessity of interrupting April's self-destructive patterns of impulsive sexuality, substance abuse and bulimic behavior, not only because they are "bad for her", but because these patterns affect brain activity in ways which soothe distress but interfere with the conditions for neuro-plastic regeneration of synaptic connections.

Problem behaviors such as binge-eating and vomiting affect brain function through the severe and enduring disruption of serotonin, dopamine, and opioid systems. This leads to further affective disorganization then dissociative somnolence. Vomiting in bulimia, for example, is associated with decreased serotonin binding in the hypothalamus, disrupting regulation of appetite, satiety, and mood (Kaye, 2001). Nutritional restriction in anorexia actually diminishes brain volume with corresponding cognitive impairment, obsessiveness and emotional dysregulation. (cite?) Substance abuse directly affects brain neurochemistry through down-regulation, over-stimulation, or dissociation.

Even April's promiscuity may be a misguided effort to activate the neuro-chemical mediators of attachment. Research shows that orgasm is associated with increased attachment through hormonal regulation of dopamine, opiod and oxytocin mechanisms. At Yellowbrick, April can experience a safe

and secure alternative where an authentic belonging and intimacy provide the emotional and neuro-chemical context for connectedness.

Neuropsychoanlytic Therapeutic Technique

While there is so much more that is yet to be learned, the psycho-neurobiology of attachment has begun to teach us about the psycho-neurobiology of psychotherapy (cf., Allan Schore, 2003). Freud (1915) recognized that the work of psychotherapy is in the "basic rapport" of the affective relationship. As Gedo writes (?), psychotherapy is a "technology of instruction" within which the relationship is the engine of learning. Neuro-psychoanalytic psychotherapy has been called essentially "a conversation between limbic systems" (Buck, 1994 p.266). The neuro-psychoanalytic model views the process of psychotherapy as the therapist's neuro-biologically empathic response to his or her nonverbal "implicit relational knowledge" (Stern, Brucshweiler-Stern et al., 1998; in Schore, 2003, p. 53) of the patient intuited through the shifting developmental matrix (cf. Gedo and Goldberg, 1973).

The first "topic" in this conversation is at the developmental level of basic security and trust. This allows for a quieting of the danger-alerting limbic-system areas of the brain so that connectedness is more likely to occur. Research (cites?) demonstrates that increased security of attachment is associated with facilitating the development of empathy, a necessary capacity for both introspective compassion and forgiveness, which are common hurdles in this troubled group of patients.

At Yellowbrick, we often have the advantage of emerging adults coming to us for help at times of great personal and family crisis. This often includes a latent hope, openness and receptivity to new attachments, usually those of an idealizing type. These idealizing attachments offer a sense of merging

protection (Kohut, 1971) as well as the motivation to identify with the admired other. This makes implicit modeling an important process within the treatment context.

The next developmental level addressed in the neuro-psychoanalytic model is self-unification. The Yellowbrick community process reinforces security, ie., down-regulation of the limbic system, and extends a sense of belonging with a unique individual identity. Opportunities are sought to affirm and validate the individual so as to strengthen the sense of a core, unified self. The community process also insists on accountability to others and the challenge of appreciating others' experience, especially their experience of you!

Dissociation presents formidable therapeutic challenges in working psychotherapeutically with emerging adults. How can neuro-science guide technique here? It is precisely the most archaic, split off, right-brain affective experiences that the patient needs to share with the therapist but for which there are, as yet, no words. How do we access the right brain? One way experienced therapists know is through the collaborative integration of projective identification experiences. The mechanism of projective identification enables patients to share their trauma in affective form and thereby be fully known by the therapist. The neuro-biologically empathic therapist is open to recognizing that their own experience of distress and disorganization, for which there will be many rationalizations to explain otherwise, is actually the resonating right brain communication of the patient through projective identification. Interestingly, research shows that gifted empathic therapists have greater right frontal electrophysiological activation (Alpert et al., 1980) while they perceive others' emotional states.

Much of April's early treatment occurred through such "conversations". There was a rhythm in April's treatment where moments of intimacy occurred only to be followed by misbehaviors such as drinking in flagrant violation of Yellowbrick boundaries which would put her in jeopardy of administrative discharge. Feelings among staff of betrayal and guilt as to the depth of our commitment to April swept through the community. These feelings were understood as representing dissociated aspects of April's experience with her mother. What is significant here is the fact that these issues were not just talked about, they were lived out together among staff with April, in real time, with intense real-life consequences. At Yellowbrick, we recognize that we must engage with our patients within these implicit, nonverbal, right-brain dialogues that will be repetitively re-enacted. It is especially within these states that archaic neural networks are reactivated and can, therefore, be influenced to develop new patterns.

Accessing the right brain is a major challenge in the effort to address dissociated memory and experience. Therapeutic approaches which involve non-verbal emotional arousal, and often some form of body experience, are key. These include art studio and art therapy, dramatization, music with singing, and movement involving yoga, martial arts instruction and strength training. Mindfulness training, meditation, and guided-imagery visualizations are also therapeutic modalities that target the right brain. In fact, research demonstrates that imagining doing something activates the brain in the same areas, and to the same degree, as actually doing it (cite?).

The emergence of greater self-agency and personal responsibility also initiates the level of therapeutic intervention Gedo and Goldberg term "optimal disillusionment". This is the third critical phase of treatment and, most often, the phase patients remain in for the duration of their intensive immersion in

The Residence and Intensive Outpatient Program. The optimal disillusionment phase is when we can't seem to do anything right; don't have the answers; don't say anything they didn't already know… you've all been there with patients; you know how it goes. This is when our patients re-experience their parents failings and need us to, unlike their parents, admit our mistakes and own up to our failings without losing our self-valuation and mutual appreciation and positive regard. Optimal disillusionment facilitates the emergence of resilient self-regard. It frees the ideal self to become a source of guiding motivation rather than a weapon of self-condemnation.

This evolving self-development and -organization occurs, not only at the intrapsychic level; it occurs at the level of the brain. Daniel Siegel (1999) synthesizes the sum total of findings from developmental neuro-scientific research as showing that the ultimate, organizing purpose of the brain's formation and growth throughout the lifespan is to evolve an ever more complex, integrated and higher-order representation of the self-in-relation (p.?).

SUMMARY

This presentation describes the theoretical basis of a model of treatment for seriously troubled emerging adults. Arnett's five "in between" features of emerging adulthood and Tanner's "Re-centering" theory serve as a developmental framework. Gedo and Goldberg's intra-psychic developmental hierarchy is utilized for understanding the fluctuating nature of the self-organization and its varying needs for different forms of therapeutic attunement and intervention. The Real-Time Treatment approach attempts to join patients at every level of their self-experience in a kind of intense therapeutic immersion. This

can best occur in moments of real life in which they emerge through intense pathological re-enactments. This is where we “live with them”, therapeutically, as they confront and master the challenges of their intrapsychic development in their everyday lives. Findings from the frontier of neurobiology have profound implications for both the broad principles of treatment, and specific psychotherapeutic techniques, designed to stabilize danger-alerting brain systems, to strengthen self-unification, to access dissociated right brain experience and to increase right-left brain communication and integration.