

A DEVELOPMENTAL PSYCHOBIOLOGICAL APPROACH TO THERAPY

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Traditional forms of couple therapy largely ignore, or do not account for the psychobiological substrates that bring people together and drive them apart. Systems, cognitive-behavioral, and psychoanalytic models do not fully take into account the moment-by-moment interaction of mind, brain, and body within a two-person psychobiological system. The working hypothesis of this short paper is that partners in a romantic relationship rely upon one another for regulation of their autonomic nervous systems, and this dependency has its roots in the earliest of relationships, the mother-infant attachment system.

NEUROBIOLOGY AND REGULATION OF THE MOTHER-INFANT RELATIONSHIP

From the very beginning, we depend upon an external regulator for our basic psychobiological needs. It is through this interactive regulatory system that we first learn to be with another person and then with ourselves. In the secure mother-infant dyad, the mother is regulating the infant's developing autonomic nervous system and providing the stimulation necessary for the experience-dependent maturation of the infant's social-emotional, psychoneurobiological system (Schoore, 2002a, 2002b). Somatosensory stimulation, through face-to-face, skin-to-skin interaction, is via visual, auditory, olfactory, gustatory, and vestibular processes. Within this secure relational system begins the planting of seeds necessary for social-emotional development, such as capacities for trust, empathy, love, playfulness, humor, patience, creativity, and vitality. Here in the interrelational orbit of secure attachment, injuries are born, acknowledged, and repaired. Together, mother and infant maneuver up and down a full bandwidth of arousal and affective states in an infant-led orchestration of engagement and disengagement, stimulation and quiescence, expansion and contraction, gaze connection and gaze aversion.

Attachment is not only the generation of cognitive internal working models; it is also the dyadic regulation of arousal and emotion (Bowlby, 1988; Schoore, 1994). The developing social-emotional system largely involves the infant's right hemisphere, which has deep connections into the limbic system and body. The right hemisphere is dominant for gaze, non-verbal communication, processing of emotional communication, and processing of the somatic aspects of communication. The right hemisphere dominates during overwhelming stress and activates the hypothalamic-pituitary-adrenal axis (HPA) and production of stress hormones (cortisol) (Sullivan & Gratton, 2002).

Synchronous communication between mother and infant is a right hemisphere-to-right hemisphere, nervous system-to-nervous system process, and this sets the stage for later development of the right orbitofrontal cortex (OFC), an area known to play a major role in affect regulation and other executive functions. The synchrony of the secure mother-infant dyad modulates the intensity and duration of sympathetic (high) and parasympathetic (low) activation. This continuous interactive regulation of arousal provides a dynamic dyadic container that is contingently responsive, and based in a mutuality that attracts involvement as opposed to cultivating aversion or indifference to it, which may lead to a bias toward autoregulation.

In the secure mother-infant relationship, and in the stable adult romantic relationship, right brain-to-right brain interactive regulation is the preferred means of stimulation and soothing (over autoregulation) and this jointly created capacity underlies the dyad's ability to amplify positive emotions and to attenuate rather than dismiss negative emotions.

NEUROBIOLOGY AND REGULATION OF THE ADULT ROMANTIC RELATIONSHIP

Like the mother-infant "couple," stable adult romantic couples create a mutually habitable psychological space that allows voluntary engagement with the other for pleasure, calming, safety and security and disengagement without consequence.

As adult romantic partners become closer and more familiar, they begin to function as a *regulatory team*, depending upon one another for regulation of each other's autonomic nervous system. Each couple forms a unique, intersubjective dyad, with its own unique regulatory capacities. Their stability as a couple depends on their ability to regulate interactively across their potential bandwidth of arousal. Though they operate as a unit, each partner brings his and her own regulatory capacities to the relationship. However, regardless of their individual histories, success or failure of the couple based on personal history alone is not entirely predictable.

A leading cause of marital instability is chronic hyperactivation of the hypothalamic-pituitary-adrenal axis (HPA) and sympathetic over-arousal and/or parasympathetic under-arousal, as partners experience an extreme psychobiological shift in the organization of here-and-now experience. In moments of severe stress, individuals and the dyad itself can move either fight, flight or freeze, or into

conservation withdrawal, a massive parasympathetic drop into a deadening state of dissociation, collapse and hopeless surrender, with prevailing feelings of intense shame, annihilation, and fragmentation. The result is a breach in the attachment system that resonates implicitly with early experiences of disruption in the mother-infant system. The dyad becomes unstable and uninhabitable thus forcing each individual to turn to their given strategies for re-regulating their internal state. For example, a problem arises when one partner turns toward autoregulation for self-organization and down-regulation of arousal while the other requires interactive regulation to achieve the same. The result is a couple that cannot calm down and repair injuries.

Successful couples are able to limit and modulate dyadic arousal states, avoid emotional flooding, and maintain a relatively high degree of emotional connectedness, friendship and goodwill. They are able to hold one another within the relational orbit due to their capacity to generate considerably more positive than negative mutual experience, and in conflict, to override negative feelings with positive ones (Gottman, 1994). By doing so, they can engage one another, even in conflict, with the confidence that they will not fall into a prolonged state of mutual dysregulation. Couples who are unsuccessful at this will have fewer and

shorter periods of enjoyed mutuality and more moments of disengagement as a response to conflict.

SOCIAL-EMOTIONAL CUEING

Because implicit social-emotional (SE) cues are rapidly processed by the limbic system and right hemisphere, partners respond instantly to subtle affective shifts expressed in the face, voice, and body posture of the other (Schore, 2002b). For instance, partner A is able to read partner B's immediate emotional reactions faster than partner B can "know" and verbalize them. Under non-stressful circumstances, with individuals possessing good SE development, this SE cueing seems to be *the* mechanism of interactive regulation, attunement, and reflective functioning. A common symptom of couple distress is gaze aversion by one or both partners. The purpose of gaze aversion, ostensibly, is to down-regulate arousal, but a problem occurs with sustained gaze aversion. The loss of eye contact disrupts the couple's ability to provide contingent responses to one another, based on real-time data flow emanating from subtle shifts in facial expression and pupil dilation. Continuous dropping of eye contact promotes autoregulation and non-contingent response based on internal object representations.

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The right orbitofrontal cortex (OFC) provides error correction in SE cueing. However, in the presence of sympathetic (hyperaroused) or parasympathetic (hypoaroused) conditions, the OFC goes offline leaving a subcortical appraisal system to regulate via verbal and non-verbal means. In this state, partners revert to their internal working models and primitive part-object relations (Bowlby, 1988; Kernberg, 1985). This can be problematic for the therapist whose own ability to self-regulate within optimal range is challenged and the likelihood of countertransference acting-out increases. Yet it is in this mental/emotional state that treatment is most effective. During periods of arousal and affect dysregulation within the couple system, the therapist can make powerful advances toward interactive repair of early-encoded relational traumata and its sequelae. The therapist, in order to help the couple, must function as an external "OFC" for the dyad and must be able to achieve this in the face of intense affect, dysregulated arousal, and primitive defense.

The first order of couple therapy should be the management of acute or chronic dysregulation within the couple system. The therapist should focus interventions designed to help couples regulate intensely high and low arousal states *while they occur*. Sometimes this is a matter of expanding their tolerance of *intensity*, or managing sudden spikes in intensity. At other times, it is a matter of modulation, in which the couple, as a regulatory team, is unskillful at managing the *duration* of intense hyper- or hypoarousal. The therapist can help by microfacilitating each partner's immediate awareness of his or her somatosensory experience, which slows the couple's pace and bring the couple back into a social engagement system (Porges, 2001). It should be kept in mind that the average person requires a minimum of 20-30 minutes to recover from DPA (Gottman, 1994; Kiecolt-Glaser et al., 2003). The therapist should also pay special attention to the couple's injury/repair response time. In this work, the content is background to the process of interactive regulation, or lack thereof.

This regulatory model strongly suggests that fundamental to the clinician's understanding as to why some couples thrive and others fail are the developmental, psychobiological substrates that motivate engagement and disengagement. This perspective, which includes identifying and tracking a couple's regulatory strategies, can provide the clinician with a useful therapeutic approach that may increase the success of clinical intervention.

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