Welcome to what is often described as “the merry month of May”. Whether it is from Thomas Dekker’s poem in 1599 or James Jones’ book in 1971 or even Stephen Foster’s song sung by Nelson Eddy, it is always a good time to find what is merry in life. It is equally good news when a new book is released by Allan Schore, and The Neuropsychotherapist is very pleased to publish an extract from his book The Development of the Unconscious Mind.

We shine our Spotlight this month on someone I’d like to introduce you to: Flavio Cannistra from Italy. He is doing wonderful work in single session therapy and is leading the introduction of the practice to his homeland.

We also look into two fascinating areas of therapy that are not discussed as often as warranted. Connie Lawrence takes us into her specialty field of Psychodrama and introduces us to some key concepts and how to apply these in practice in The Caring Observer: Creating Self-Compassion through Psychodrama. Connie has integrated her expertise of Interpersonal Neurobiology into her psychodrama work to produce a unique and rich perspective. Keeping something very special till last, we have an interview with Michael Yapko, who is one of the keenest minds in psychotherapy and hypnotherapy. I had the pleasure of talking with Michael about the release of his 5th edition of the definitive text for therapeutic hypnosis – Trancework: An introduction to the practice of clinical hypnosis. He has included a special chapter on the neuroscience of hypnotherapy. We discuss this and more during our unique conversation.

I hope you enjoy the scope of this issue – the established, the new and the interesting! Remember to send us your comments and your suggestions. I am always keen to receive submissions from our community for the magazine and also for our blog and podcast. Sharing our knowledge is a wonderful way to utilise the medium of the web and we are keen to make it a community effort.

Richard Hill | Editor

Cover photo by Julie Johnson
CONTENTS

4 NEUROSCIENCE
Early Emotional Attachment, the Development of the Right Brain, and the Relational Origins of the Unconscious Mind
Allan N. Schore

16 APPLIED NEUROPSYCHOTHERAPY
The Caring Observer: Creating Self-Compassion through Psychodrama
Connie Lawrence

30 INTERVIEW
Trancework
Michael Yapko

38 SPOTLIGHT
Flavio Cannistra

42 NEUROSCIENCE NEWS
Early Emotional Attachment, the Development of the Right Brain, and the Relational Origins of the Unconscious Mind

Allan N. Schore
In recent years the unconscious, the central theoretical construct of psychodynamic theory, has reappeared in a new form in the scientific and clinical literatures. Psychoanalysis has been called the scientific study of the unconscious mind (Brenner, 1980), clearly implying both that the unconscious is the definitional realm of study and that this realm is accessible to scientific analysis. Although originally closely tied to the psychoanalytic theory of repression, the construct of the unconscious is now being used across a number of psychological and neurobiological disciplines to describe essential implicit, spontaneous, rapid, and involuntary processes that act beneath levels of conscious awareness. Yet, despite current significant advances in brain laterality research, many clinicians and social scientists continue to hold older and now unsupported ideas that the “primitive” nonverbal unconscious mind is a miniature of the “more complex” verbal conscious mind, and that the “nondominant” right hemisphere is a lesser mirror of the “dominant” left hemisphere.

In my last book, I asserted that a deeper understanding of human development can never be attained by narrowly focusing infant studies on the precursors of language, voluntary behavior, and conscious thought (Schore, 2012). The Development of the Unconscious Mind offers chapters on the early maturing yet long enduring essential impact of the unconscious mind.

Excerpted from The Development of the Unconscious Mind © 2018 by Allan N. Schore. Used with the permission of the publisher, W. W. Norton & Company.
on all later aspects of human development. In the following, I will over a large body of evidence indicating that the development of the unconscious mind begins in the prenatal, perinatal, and postnatal stages of human infancy and continues across all later stages of the life span. This model supports Freud’s description of the human mind: “Every earlier stage of development persists alongside the later stage which has arisen from it. . . the primitive stages can always be re-established; the primitive mind is, in the fullest meaning of the word, imperishable” (1915a/1957, p. 285). Indeed, in 1920, Freud proclaimed that “the unconscious is the infantile mental life.”

In expanding Freud’s thesis, I will suggest that an integration of current findings in the neurobiological and developmental sciences can offer a deeper understanding of the origins and dynamic mechanisms of the system that represents the core of psychoanalysis, the system unconscious. The construct of the unconscious has thus shifted from an intangible, immaterial, metapsychological abstraction of the mind to a psychoneurobiological heuristic function of a tangible brain that has material from. The direct relevance of this reformulation to a deeper understanding of clinical phenomena is a central theme of Right Brain Psychotherapy, the companion to the book from which this passage was excerpted.

In my inceptive 1994 volume Affect Regulation and the Origin of the Self, I first integrated developmental psychology, developmental neuroscience, and developmental psychoanalysis in order to tie together the conceptual, clinical, and research links between early attachment, psychoanalytic object relational development, the experience-dependent maturation of the right brain, and the origins of the human unconscious. This first relationship, the one with the mother, acts as a template, as it permanently shapes the individual’s capacities to enter into all later emotional relationships. These early experiences shape the development of a unique personality, its adaptive capacities as well as its vulnerabilities to and resistances against particular forms of future psychopathologies, much of which are expressed at unconscious levels. Indeed, they profoundly influence the emergent organization of an integrated system that is both stable and adaptable, and thereby the formation of the subjective self.

This conceptualization was the first expression of interpersonal neurobiology, a perspec-
tive of human development that enables us to understand that the structure and function of the mind and brain are shaped by experiences, especially those involving emotional relationships. To put this concisely, “the self organization of the developing brain occurs in the context of a relationship with another brain, another self” (Schore, 1996, p. 60). Over the past three decades, a huge body of interdisciplinary evidence across all mammalian species, including humans, documents the indelible, enduring impact of specifically the mother on the infant’s prenatal and postnatal subcortical brain development (Schore, 1994, 2003a,b, 2012). Thus I have continued to offer data supporting the organizing principle that the “first relationship” (Stren, 1977), “the earliest relationship,” (Brazelton & Kramer, 1990) with another human is mediated by unconscious right brain-to-right brain attachment communications between the mother an infant, and that this primordial bond is mediated by rapid emotional communications between the mother’s right brain unconscious and the infant’s emerging right brain unconscious (Schore 1994, 2003a, 2003b, 2012). In other words, early affective experiences during critical periods of right brain development permanently influence the development of the right-lateralized psychic structures that process unconscious information.

This, a central thesis of my work dictates that the right brain represents the psychobiological substrate of Freud’s unconscious. Recent information suggests maternal-fetal placental transactions occurring in the last trimester in utero may shape the primordial emergence of the deep unconscious (Schore, 2017). The con-
tinuity of this right brain unconscious mechanism across the life span underscores Fischer and Pipp’s observation, “A young infant functions in a fundamentally unconscious way, and unconscious processes in an older child or adult are to be traced back to the primitive functioning of the infant or young child” (1984, p. 88). These authors also conclude that the unconscious does not remain static during childhood but undergoes subsequent systematic developments.

Although a number of important developmental psychoanalysts studied the critical role of the unconscious in human infancy, John Bowlby integrated psychoanalysis and contemporary ethology and neuroscience to propose that in intimate emotional attachment contexts, human feelings are detected through “facial expressions, posture, tone of voice, physiological changes, tempo of movement, and incipient action” (1969, p. 120). In a number of contributions, I have offered neurobiological evidence that attachment communications are expressed in right-lateralized visual-facial, tactile-gestural, and auditory-prosodic emotional nonverbal communications (Schore, 1994, 2003a, 2003b, 2012). As opposed to later forming left-hemispheric secondary process verbal communication, right-hemispheric nonverbal attachment communication has been described by Dorpat as “primary process communication” expressed in “both body movements (kinesics), posture, gesture, facial expression, voice inflection, and the sequence, rhythm, and pitch of the spoken words” (2001, p. 451). The right hemisphere is dominant for the perception of nonverbal emotional expressions embedded in facial and prosodic stimuli, even at unconscious levels (Blonder, Bowers, & Heilman, 1991; George et al., 1996; Wexler et al., 1992), for primary process cognition (Galin, 1974; Joseph, 1996), and for nonverbal communication (Benowitz et al., 1983). At all later stages of human development, “The neural substrates of the perception of voices, faces, gestures, smells, and pheromones, as evidenced by modern neuroimaging techniques, are characterized by a general right-hemispheric functional asymmetry” (Brancucci et al., 2009, p. 895). At levels beneath awareness, humans tend to display right hemispheric “Left Gaze Bias,” whereby they direct their initial gaze to the left side of the other’s face, and look longer exploring the left side (Salva et al., 2012).

In classic studies of the two-person psychology of the early mother–infant face-to-face protoconversation, Trevarthen (1993) observed that visual eye-to-eye messages are coordinated with auditory vocalizations (tone of voice,
“motherese” and tactile and body gestures as a channel of communication, and that the resultant dyadic resonance ultimately permits the intercoordination of positive affective brain states. This interactive mechanism requires older brains to engage with mental states of awareness, emotion, and interest in younger brains and involves a synchronized coordination between the motivations of the infant and the subjective feelings of adults. In this manner, “The emotions constitute a time–space field of intrinsic brain states of mental and behavioral vitality that are signaled for communication to other subjects and that are open to immediate influence from the signals of these others” (p. 155). In other studies, Trevarthen asserted that “the intrinsic regulators of human brain growth in a child are specifically adapted to be coupled, by emotional communication, to the regulators of adult brains” (1990, p. 357), and that “The right hemisphere is more advanced than the left in surface features from about the 25th (gestational) week and this advance persists until the left hemisphere shows a post-natal growth spurt starting in the second year” (1996, p. 582). In contemporary writings, Meares offered interdisciplinary evidence to show that the protoconversation mechanism continues in later development and is an essential element in not only communication but also the human capacity for symbolization. He describes protoconversation as a “conversation between two right brains” (2016, p. 52).

Twenty-five years after Trevarthen’s pioneering work, advances in technology now present another image of the attachment communication system embedded in this pri-
mordial relationship. In an article in *Annals of Family Medicine*, Ungar offered a two-person psychological image of the neuroscientist Rebecca Saxe and her infant in an MRI scanner. Commenting on this emotionally evocative image, Ungar (2017) continued:

The image depicts the mother–infant bond at the level of its most basic neuroanatomy. Through a grainy spectrum of black and grey, the infant brain—seemingly exposed and vulnerable—is held by a larger and more robust adult brain. The two are in close communication through a kiss on the infant’s forehead, giving merit to the statement of Allan Schore, certainly to apply to our little patients in the office, that the developing brain forms in the setting of a relationship—a bonding relationship, with “another self—another brain” (p. 82).

Describing the prototypical dynamics of this mother–infant communication system, Walker-Andrews and Bahrick asserted, “From birth, an infant is plunged into a world of other human beings in which conversation, gestures, and faces are omnipresent during the infant’s waking hours. Moreover, these harbingers of social information are dynamic, multimodal, and reciprocal” (2001, p. 469). In these rapid attachment communications, the infant’s early maturing right hemisphere, which is dominant for the child’s processing of visual emotional information, the infant’s recognition of the mother’s face, and the perception of arousal-inducing maternal facial expressions, is psychobiologically attuned to the output of the mother’s right hemisphere, which is involved in the expression and processing of emotional information and in nonverbal communication. The right cortex is known to be specifically affected by early social experiences, to be activated in intense states of emotion, and to contribute to the development of reciprocal interactions within the mother–infant regulatory system. The child uses the output of the mother’s emotion-regulating right cortex as a template for imprinting—the hard wiring of circuits in his own right cortex that will come to mediate his expanding affective capacities.

Via this interpersonal neurobiological mechanism, the parenting environment influences the developing patterns of neuronal connectivity that underlie implicit nonverbal communication and spontaneous emotional behavior (Schore, 2003a). Thus, the early maturing, visuospatial, emotional, right cerebral cortex (as opposed to the later developing lexical–semantic left cortex), which stores and processes self-and–object images, has been suggested to be responsible for the manifestations of unconscious processes (Galin, 1974; Hoppe, 1977; Miller, 1991; Schore, 1991; Watt, 1990). This data fits nicely with Bowlby’s (1969) description of unconscious internal working models of the attachment relationship. These models, which operate outside of conscious awareness (Bretherton, 1985; Main, Kaplan, & Cassidy, 1985) are guides for future interactions, and the term “working” refers to the individual’s unconscious use of the model to interpret and act on new experiences. They contain affective as well as cognitive components and are unconsciously accessed and utilized in the generation of internal strategies of implicit affect.
regulation, especially during times of stress. Unconscious attachment working models are thus encoded not in the left-hemispheric strategies of conscious emotion regulation, but in right-hemispheric unconscious, implicit (Schore, 1994), “subliminal affect regulation” (Jostmann et al., 2005), which does not rely on the limited capacity of the conscious mind and resists conscious intervention.

Alluding to the differences between the hemispheres, Freud described the unconscious as “a special realm, with its own desires and modes of expression and peculiar mental mechanisms not elsewhere operative” (1920). In The Ego and the Id, Freud proposed that “thinking in pictures . . . approximates more closely to unconscious processes than does thinking in words, and it is unquestionably older than the latter both ontogenetically and phylogenetically” (1923/1961, p. 21). This speculation is now confirmed by a body of data suggesting that the right hemisphere, the biological substrate of the unconscious, matures before the left (Gupta et al., 2005; Mento et al., 2019; Sun et al., 2005), and that the right brain is dominant in human infancy (Chiron et al., 1997; Schore, 1994). These neurobiological data also support Freud’s suggestion that highly visual, nonverbal, primary process-cognition, dominant in infancy, ontogenetically precedes later forming, verbal, secondary process cognition. Indeed, because of its central role in unconscious functions and primary process activities, psychoanalysis has been intrigued with the unique operations of the right brain since the
last quarter of the 20th century (Hoppe, 1977; McLaughlin, 1978; Miller, 1986; Watt, 1986).

In my own developmental neuropsychoanalytic work, I have suggested that during rapid, dyadic attachment transactions, the sensitive primary caregiver’s right brain implicitly (unconsciously) attends to, perceives, recognizes, monitors, appraises, and regulates nonverbal expressions of the infant’s more-and-more intense states of positive and negative affective arousal. Neuroscientists are now asserting that at all stages of the life span, the right hemisphere specializes in implicit learning (Hugdahl, 1995). The temporal dynamics of these implicit, rapid, spontaneous, intersubjective, bodily-based, emotional, right brain nonverbal face-to-face communications have been described by Lyons-Ruth (1999), who observed that implicit, nonconscious process of nonverbal affective cues in infancy “is repetitive, automatic, provides quick categorization and decision-making, and operates outside the realm of focal attention and verbalized experience” (1999, p. 576, italics added).

In this mutually reciprocal face-to-face intersubjective context of right brain-to-right brain nonverbal visual-facial, tactile-gestural, and auditory-prosodic communications, the caregiver and infant learn the rhythmic structure of the other and modify their behavior to fit that structure, thereby co-creating a moment-to-moment specifically fitted interac-
All of this is occurring rapidly and spontaneously, as the intuitive mother is co-creating the emotional relationship unconsciously, beneath levels of conscious awareness. Freud proposed that “everyone possesses in his own unconscious an instrument with which he can interpret the utterances of the unconscious of other people” (1913/1958, p. 320). Thus, the attachment relationship reflects a coordination and alignment between the mother’s right brain unconscious and the infant’s developing right brain unconscious. In face-to-face (as well as body-to-body) transactions, the mother is implicitly shaping her infant’s unconscious mind, which Freud observed develops before the conscious mind.

Indeed, the mother’s emotionally expressive face is, by far, the most potent visual stimulus in the infant’s environment, and the child’s intense interest in her face, especially in her eyes, leads him to track it back in space and to engage in periods of intense mutual gaze. The infant’s gaze, in turn, reliably evokes the mother’s gaze, and this dyadic system forms an efficient interpersonal channel for the transmission of reciprocal mutual influences. These mutual gaze interactions represent the most intense form of interpersonal communication, and in order to enter into this affective communication, the mother must be psychobiologically attuned not so much to the child’s overt behavior as to the reflections of his internal state. The more the mother tunes her activity level to the infant during periods of social engagement, and the more she allows him to recover quietly in periods of disengagement, the more synchronized their interaction. This psychobiological synchronization mechanism allows the attuned dyad to be “on the same wavelength.”

According to Manini and her colleagues.

Synchronization of the mother’s responses to infant signals in typical dyadic interaction can be considered a key aspect of sensitive parenting, as it implies the promptness of the mother’s response and the adaptation moment by moment to the child’s emotional state . . . which contributes to a unique bond between them. The autonomic nervous system seems to represent an elementary mechanism supporting emotional synchrony between mother and infant (p. 2).

Secure attachment thus depends on the mother’s psychobiological attunement not with the infant’s cognition of behavior, but rather with the infant’s dynamic alterations of autonomic arousal, the energetic dimension of the child’s affective state. To enter into this rapid communication, the mother must resonate with the dynamic crescendos and decrescendos of the infant’s bodily-based internal states of peripheral autonomic nervous system (ANS) arousal and central nervous system (CNS) arousal. This autonomic activity occurs at an unconscious level. In these mutually synchronized social interactions, the psychobiologically attuned mother of the securely attached child not only minimizes the infant’s negative states in comforting transactions but also maximizes his or her positive affective states in interactive play. Regulated synchronized affective interactions with a familiar, predictable primary caregiver create not only a sense of safety but also a positively charged curiosity,
wonder, and surprise that fuels the burgeoning self’s exploration of novel socioemotional and physical environments. This ability is a marker of infant mental health.

Sources


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THE CARING OBSERVER

CREATING SELF-COMPASSION THROUGH PSYCHODRAMA

Connie Lawrence
The concept of the “observer” is well established in science and also in society. It carries the tone of “separate” and “disconnected” and “apart from” what is being observed. This dissociated quality of observation may have its place, but the capacity to observe and have a subjective involvement at the same time is not historically unusual.

The presence of an internal “observer” has been central to ancient Eastern traditions of meditation, yoga, and mindful awareness and has found its way to Western psychotherapy, perhaps because of its ability to bring wisdom and grounding to even the most tumultuous situations. The observer gives the ability to stand back and notice what is happening inside, while experiencing it at the same time. Even the smallest space between experiencing the full power of feelings and “knowing” that they are just feelings allows a person to settle into the reassurance that even a tidal wave of emotion will eventually pass.

The caring observer is a role created through psychodrama in relation to the traits of self-compassion: to evoke a warm embrace of the self; the ability to hold one’s self in kindness through suffering; and the sense of feeling connected to humanity rather than isolated and ashamed. A growing body of research indicates that self-compassion and self-esteem contribute to overall optimism and hopefulness (Neff & Vonk, 2009). In psychodrama, we create the felt sense and experiential engagement with concepts described in research such as that self-compassion is a more stable and enduring trait in positive mood states, and that openness and resilience is a stronger healing agent for depression, anxiety, self-loathing, and self-injurious behaviors.

Psychodrama has several techniques to embody the observing stance that can help someone find stability, or grounding, even in an affectively charged experience of swirling emotions. One such procedure is to have the protagonist pause the emotionally intense action, step outside the dramatic arena, and watch the

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scene from afar. He or she becomes a calmer witness who can offer reflection, wisdom, or solace to the self. Simply watching the scene, versus living in the intensity of it, provides a safe distance and a fresh perspective.

In the 1990s, Kate Hudgins, PhD, developed a specialized psychodramatic model to treat post-traumatic stress disorder called the Therapeutic Spiral Model. Her model, now used to treat individuals and communities in the frontlines around the globe, casts the role of the Observing Ego (OE) along with various doubles (empathic voices) to create the internal architecture of safety and containment. The OE provides the cognitive container, or the left hemisphere’s presence, to help label events that may be stored in the highly charged, nonverbal memory. The OE helps make sense of the once fragmented experience and weaves it into the colourful and empowering narrative of the trauma survivor (Hudgins, 2002; Hudgins and Toscani, 2013; Lawrence, 2011).

**ADDING COMPASSION**

Buddhist traditions kindle the softheartedness of compassion with prayers or mantras that ask for safety and good fortune for oneself, the community, and the world: a simple act that evokes feelings of tenderness and care for self and others. A recent study from the University of Wisconsin shows that this exercise of well-wishing is akin to weight training in its ability to build “compassion muscle” in the body and mind. The two-week compassion training increased altruistic behavior in participants and increased firing patterns (comparing fMRI) in the inferior parietal cortex, the area
associated with empathy, when looking at images of suffering. The compassion training also increased regular activity in the dorsolateral prefrontal cortex and its communication with the nucleus accumbens, brain regions involved in everyday emotion regulation and positive emotions (Weng et al., 2013).

The soothing and therapeutically beneficial qualities of self-compassion have begun to make their way into psychotherapy through programs such as Compassionate Mind Training (see later), mindfulness-based therapies, self-compassion workbooks, and self-forgiveness exercises. One of the leading pioneers in the field of self-compassion—Kristin Neff, PhD, at Texas University—has generated volumes of research on its efficacy in psychotherapy.

She defines self-compassion as having three essential components:

1. Self-compassion involves treating oneself with kindness versus self-judgment in the face of suffering, pain, or mis-haps.

2. The trait of self-compassion is the understanding that suffering, mistakes, and messiness are part of the human condition rather than something unique and shameful.

3. Self-compassion involves the element of mindfulness, or an understanding that painful feelings come and go and one doesn’t need to overidentify with them (Neff, 2009; Neff, Kirkpatrick, and Rude, 2006; Neff and Vonk, 2009).

Sagittal MRI slice with highlighting (red) indicating the nucleus accumbens.

Image Geoff Hall - Wikipedia.org
Gilbert and Irons (2004) add the qualities of warmth and wisdom to self-compassion, connecting it to the mammalian caretaking and comfort system. Badenoch (2008, 2011) brings the addition of the warm welcome, suggesting we treat all parts of ourselves—even the parts that are defensive, scared, critical, or cranky—with the open arms of acceptance. She writes, “Our consistent experience tells us that therapeutic progress accelerates when our patients are able to shift from the stab of self-blame to the embrace of self-compassion” (2008, p. 184).

A NEW THERAPEUTIC MODEL: SELF-COMPASSION

Self-compassion is gaining evidence and valour as a construct that enhances positive moods and prosocial behavior and is a robust protective factor against a variety of disorders, including anxiety, depression, rumination, and fear of failure. Higher levels of self-compassion are linked with higher levels of happiness, optimism, curiosity, and connectedness (Neff, 2009). It is also linked with connecting language versus separating language (disowning parts of self) when writing about weaknesses (Neff et al., 2006). Research shows that people with high self-compassion tend to have courage to venture into new arenas, make mistakes, and pick themselves up again, since they are more likely to offer themselves reassurance. They are also more motivated to learn from intrinsic curiosity and desire for mastery than from performance or competitive goals alone (Neff, 2009).

Like self-esteem, self-compassion correlates with general happiness, optimism, and positive mood states; however, self-compassion holds up where self-esteem falters, since self-compassion is based not on being better than average or achieving a goal but on treating one’s self with friendly regard (Baumeister, Campbell, Krueger, and Vohs, 2005; Neff, 2009; Neff et al., 2006; Neff and Vonk, 2009). After nearly three decades of esteem-building programs, research now tells us that adolescents with high self-esteem are no less likely to turn to alcohol, drugs, bullying, cheating on tests, or engaging in early sexual activity than teenagers with low self-esteem (Baumeister et al., 2005; Neff and McGehee, 2010). Research indicates that self-compassion is a stronger buffer against anxiety when a person is faced with an ego threat than self-esteem, since self-esteem is often contingent upon outcomes and comparing the self to others (Neff and Vonk, 2009).

A study of self-compassion versus global self-esteem found that self-compassion predicted more stable feelings of self-worth and had a negative association with social comparison, public self-consciousness, self-rumination, anger, and the need for cognitive closure compared to self-esteem. Self-esteem is positively associated with narcissism and the need to defend a better-than-self-image (Neff and Vonk, 2009).

RELATIONAL PAIRS: INTERNALIZED MODELS

Jacob Levy Moreno, MD (1889–1974), the founder of psychodrama and sociometry, believed that the smallest unit of treatment is two. In other words, we are always “in relation” with the other (Moreno, 1953). His enormous
contribution of the social atom is a testament to the power of internalized relationships, or how our social networks can nourish or strain us, stir ambivalence, or be simply neutral. The interpersonal neurobiologist Bonnie Badenoch, PhD, refers (2008, 2011) to empathic and unempathetic relational pairs as neural networks that represent internally what we have experienced relationally.

An example of an empathic pair would be the playful dad and adoring daughter. These two, form an internal working model woven into implicit memory, evoking bodily sensations of lightness and warmth, an involuntary smile, and the bubbling of fond memories. An unempathetic pair might be the angry mother and terrified son, leaving a grown man gripped and speechless when approached by an irritated co-worker. These pairs offer healing pathways for therapists who use psychodrama, art, or expressive therapies to loosen the lockstep of the duo and invite new connections to engender a safer internal world for clients struggling with self-abuse, neglect, or a harsh introject. We can look at self-criticism and self-compassion through the lens of the two-person dynamic to understand the power of internal berating versus internal comfort.

Interestingly, the body doesn’t distinguish between stimuli from the outside versus the push from inside: The physiological effects are the same (Gilbert and Irons, 2004; Gilbert and Procter, 2006; Neff, 2011). Research indicates that kindness from the self kindles the same circuitry as loving-kindness from another, allowing us to feel the glow of connection whether it is coming from an internal support or a friendly neighbour. This warm connection activates the mammalian caretaking system, stimulating a flow of hormones in the oxytocin and opiate family nicknamed the “social reward system.” Oxytocin has historically been named “the touch hormone,” since it is released in large doses when mothers nurse babies to promote touching, cuddling, and bonding. However, science now tells us oxytocin is released in a variety of situations where social signals indicate safety, friendliness, and affiliation. It has an overall calming effect, as it lessens fear, reduces physical pain, lowers cortisol (stress hormone), and creates a general feeling of safety, generosity, confidence, and well-being (Panksepp and Bivens, 2012). Brain studies (fMRI) show that self-compassion lights up the left temporal pole, anterior
cingulate, and anterior insula, suggesting that efforts to be self-assuring engage the same regions as expressing empathy and compassion toward others (Badenoch, 2011; Longe et al., 2010).

Self-compassion is a strong buffer against the ravage of the self-critic, which is often the feed monster in depression, anxiety, eating disorders, and shame-based disorders (Gilbert and Irons, 2004; Gilbert and Procter, 2006; Neff, 2011). A pilot study by Gilbert and Irons (2004) used Compassionate Mind Training (CMT) with a group of highly self-critical people and found significant increases in ability to self-soothe as well as significant reductions in depression, anxiety, self-criticism, shame, inferiority, and submissive behavior. CMT is targeted to reducing shame proneness through viewing self-criticism as a safety mechanism that became part of surviving a harsh or abusive environment. Seeing through a no-fault lens and using compassionate imagery, patients could calm the neurological threat system of the self-to-self attack and slowly soften into the caretaking system of inner kindness.

In this relational pair model, self-criticism and negative evaluation activate the panic system in the same way a critical attack from others sets off the neurological threat response, releasing cortisol and activating regions of the brain (lateral prefrontal cortex and dorsal anterior cingulate) that trigger error processing and resolution. Gilbert and Procter assert that depression is an example of the internal pair of dominant (hostile attack) and subordinate (submissive, anxious/depressed) response.
leaving a person feeling helpless, humiliated, and defeated in response to the inner tyrant (2006, p. 358). Based in attachment, people who suffered neglect or abuse in early years of life have not only overdeveloped systems of internal threat but underdeveloped systems of human warmth and caretaking (Gilbert and Procter, 2006; Panksepp, 2009). For example, people with and without bulimia both show the use of food for comfort, but people with bulimia have difficulty generating self-nurturance in nonfood ways (Lehman and Rodin, 1989).

Science tells us that an exercise to engender self-compassion does wonders to wash away the hormones of stress and panic and activate the juices of love and compassion (oxytocin and opiates) that restore feelings of trust, openness, and generosity. This neurological shift from sympathetic threat to parasympathetic safety allows us to relax into social engagement, better immune functioning, clearer thinking, the ability to stay present, and an overall sense of calmness (Porges, 2009).

The Caring Observer is a role created through psychodrama that embodies the traits of reassurance, warmth, and empathy that a person needs to feel “seen” and supported through his or her struggles. The Caring Observer is an endearing member of the observer family, a role slightly more dimensional and relational than the traditional observer, whose job is to be neutral, nonjudgmental, and objective (Hudgins and Toscani, 2013). Using the model of relational pairs, the Caring Observer becomes a friendly companion to the one who suffers, creating a welcoming environment for the person to grow, falter, forgive, muse, and dare to try new things.

These components are helpful: First, most often people can show compassion and caring toward others and lack the ability to show those to themselves (Neff, 2009, 2011; Neff and Vonk, 2009). This is well illustrated in the case of caregiver burnout and compassion fatigue. The protagonist may know well how to generously give empathy to others but be unable to give that same care to herself. In this exercise, her “other” energy is directed onto herself through the use of the second chair. Second, the soft blanket concretizes the nourishing feelings of love and acceptance many of us crave. Most often, participants “soak” in the luxury of the blanket and ease into a benevolent support for themselves. Finally, the Caring Observer must be experienced interpersonally first before it can be generated as an internal role. Therefore, small action structures or warm-ups that build attunement between group members enrich the field of empathic resonance and can give
participants the experience of feeling seen and understood that can then be imported into this new role. The warm-up exercises may include the following:

• Dyad sharing about a person who treated you with unconditional positive regard, a person who saw you for who you were.

• Dyad sharing (on any topic) where the instruction to the listener is to listen with eyes, heart, and body only, allowing the speaker to feel “felt with” simply through the warm embrace of being heard.

• A group activity where each person has the opportunity to take the role of a person who really “gets them” and introduces that person to the group. Place an empty chair at the top of a horseshoe and invite members to come up “as” that attuned person and tell the group something about the group member. For example, “I am Jane’s grandma Ruth and I saw what a bright girl she was.” The group leader can interview to try and extract more details and invite “Grandma Ruth” to tell Jane directly something she needs to hear.

• Building a spectrogram, or an imaginary scale of the harsh critic to allow members to warm up to the topic and to each other. Invite the group to imagine a continuum on the floor from 0 to 100. Mark each end using paper, scarf, or other item and ask, “How hard are you on yourself?” It helps to demon-
strate zero and one hundred. For example, zero is “If I do something wrong it rolls off my back, no worries whatsoever,” and one hundred is, “I can’t stop beating myself up for days”. Ask members to stand where they believe they are on the line. Individual members can share aloud, in clusters, or in dyads. Second-step variation: The group leader can ask, “Where would you like to be on this line?” Group members can move to the desired place and speak in the here and now of that spot. For example, ‘Wow, I have a lot of freedom.’ Generally, group members like to play this one out a bit so they can fully experience what it is like to have the “monkey off their backs”. The group leader can call for a description of bodily sensations, the creation of sculptures, or sentences to bring this new state to life.

**ACTION:**
**MEET YOUR CARING OBSERVER**

As the group leader, I introduce the idea of a part of ourselves who is always aware, the “one who knows all you have been through” in life. The soft blanket can be passed around or walked around by the group leader so members can “feel into” the concept of caring and self-kindness.

1. Place two chairs onstage, one slightly behind and angled toward the side of the first. In the second chair goes a soft object, like a blanket, scarf, or cloth that is soothing to the touch.

2. In the first chair (the chair in front), we imagine the Self sitting, the one who has struggled or endured hardship and is often alone. In the second chair (with the soft fabric) is the Caring Observer, the only one who knows how difficult the journey has been.

3. The group leader can explain the exercise as one where we take the role of the Caring Observer (the soft chair) to our own self—saying the words we have longed to hear. The group leader can suggest that participants take their time, offering an unrushed generosity to the sensory experience of sitting in the role, breathing deeply, and absorbing the kindness offered by the cozy blanket. This luxury of lingering invites the softer self to emerge.

4. The leader can offer sentence stems like, “I am the only one that really knows . . .” or simply allow for spontaneity.

5. This action structure can be done as an empty-chair-style exercise, where participants come up one at a time, or may be expanded to include auxiliaries and role reversals.

6. Allow plenty of time for psychodramatic sharing, which means members share from their personal touch points rather than giving advice, interpretation, or analysis. The sharing opens the door to deep connections between members and expands the feeling of belonging and commonality, one of the signature traits of self-compassion.

Comments: This exercise has shown excel-
lent results in allowing participants to have the experience of feeling understood and being held in the warmth and positive regard that fosters the healing process. Very often statements like “It wasn’t your fault!” begin to offload the heavy shame and self-loathing that come from abuse (and self-abuse), allowing a person to experience a tenderness for the part of themselves that was harmed. This new self-to-self pathway tames the hot underbrush of the self-blamer and expands into the cooler breathing space of curiosity, openness, acceptance, and love in daily life, the signal of internal safety and neural integration (Siegel, 2010). Taken together, this role-taking exercise sends the baby shoots of self-compassion—which include a softened embrace of the self and the wise observer who knows “this too shall pass”—and the self-acceptance that takes root as participants shift from isolating shame to the blossoming of belonging in a healing circle.

Contraindications: Some participants will have a strong reaction to a compassionate voice, because often a perpetrator uses the seduction of caring in the grooming stage of abuse. In this case, a more neutral tone of the Observing Ego will bring safety and containment. Also, the harsh critic will easily contaminate the role of an observer, so directors can be watchful of forms of criticism slipping into the role. Finally, the Caring Observer exercise can be taken outside of the therapeutic space—participants can recreate this small vignette on their own any time reassurance and warm wisdom is needed.
COMMENTS FROM THE FIELD

Leslie Gray, former Clinical Director of Northeast Reintegration Center states, “When I look back at Recovery in Motion®, I vividly remember you pulling out the fluffy blanket for the Caring Observer exercise, drawing sceptical looks from the women in the groups. Without fail, I watched how the women softened and shifted, as if by magic, taking in the nourishment and messages to themselves. This was really extraordinary to watch – as women in prison are often extremely hard on themselves, so this transformation was powerful and memorable. It was always one of my favourite activities.” (telephone conversation April 11, 2019).

“It provided modelling and training to do something that is still foreign for me. Importantly, it provided a space to try to TAKE IN what I was saying to myself and swallow the thoughts, allowing them to land and take root in the core of my being.” Nancy L., participant, (Toledo).

“It’s useful in family therapy because family members can share their true thoughts and feelings in psychodrama when they can’t through traditional talk therapy. The creativity unblocks a side of the brain,” Hayley Whiteman, family therapist in Akron, Ohio.

SUMMARY

Feeling “seen” and “felt with” is the soul food that nourishes us as humans and taps the brain’s hormonal sweet spots as we attune to ourselves and others. The Caring Observer can become a permanent companion, a built-in set of eyes that can be our witness and ally, a warm hand at our backs that fosters friendly acceptance, loving kindness, and humour to carry us through difficult times. This internal attachment system is switched on through a variety of practices such as loving-kindness meditations, mindfulness skills, activities of the Caring Observer, and social connections that feel safe and secure enough to become part of internal reserves.

REFERENCES


Lawrence, C. (2011, March 8). The architecture of mindfulness: Integrating the Therapeutic


Connie Lawrence, LISW-S, PAT, CET III, AES Connie Lawrence is founder the Cleveland Psychodrama Institute and creator of Recovery in Motion® which is an upbeat, experiential therapy program that incorporates expressive arts and community-building activities in the treatment of trauma and addiction. Connie has been a trauma therapist at the Cleveland Rape Crisis Center where she treated women, men and children survivors of sexual assault and sex trafficking. She was senior therapist and program manager at Luna Living Addiction treatment facility. She is a certified in Life Map Coach and offers coaching and mentorship to therapists and practitioners who want to launch or expand their healing practice. She is part of Ohio Playback Theatre troupe and enjoys bringing play and spontaneity to groups.

She has served as a board member of the Global Association for Interpersonal Neurobiology Studies (GAINS) and incorporates brain science in her work with individuals, couples, families, and groups; is a licensed clinical social worker with supervisory status in the state of Ohio; is certified by the American Board of Examiners in Psychodrama, Sociometry, and Group Psychotherapy; and is a certified experiential therapist and approved experiential supervisor by the International Society of Experiential Professionals.

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RH: Michael, thank you very much for writing Chapter 4. It has triggered a lot of interest and fascination and it’s given us at The Neuropsychotherapist a really good reason to bring you in to our little neck of the woods. I’m just wondering, there are a number of aspects I want to look into this more deeply, but if you could just discuss a little bit what led you to include this chapter, The Brain, the Mind and Hypnosis in the 5th edition.

MY: Well, you know the field of hypnosis is built around the recognition that perception is subjective. As soon as you start to consider the deeper questions - what’s going on in the brains and minds of people who are able to demonstrate these remarkable hypnotic phenomena? People who are able to undergo surgery without a chemical anaesthetic; where people who are able to generate these perceptual shifts and response to suggestion, open up creative abilities and therapeutic options and all of those kinds of things. So, you really can’t study hypnosis without having some appreciation that it’s the brain and the mind that filter all the sensory data coming in from the universe around us, as well as generate their perceptions subjectively. This gave rise to many key questions. Are there morphological differences? Are there differences in the actual physiology of the brain of people who are highly responsive to hypnosis versus people who aren’t? Are there brain differences in how people process suggestions and if so what are those differences? How does the brain influence perceptual processes and vice versa? What’s been particularly interesting is over the last 10 or 12 years now because of the advances in brain scanning technologies. We’ve had the opportunity to study these mental processes, the neuroscience of hypnosis, to a degree that we never able to before. When I wrote the 1st edition of Trancework back in 1984, these technologies just didn’t exist, although some of them did in the most rudimentary of forms, but now the fact that we can watch brains respond to stimuli in real time, microsecond by microsecond, is absolutely fascinating. So, it’s really opened up two general areas of...
inquiry: one is the instrumental approach to neuroscience - trying to understand something about what’s going on in brains of people as they undergo therapeutic suggestions - where you’re really striving to understand something about the relationship between mental processes, perception and mental health, the use of hypnosis instrumentally to help change people therapeutically; and then the other is the intrinsic focus - trying to understand something about the limits of perception. How can we introduce shifts in perception such that a person can be given the suggestion to bite into this red juicy sweet apple, when in fact it’s an onion, then the person takes a big bite out of an onion and they tell you how sweet it is and what a great apple it is? What a fascinating thing to have people respond to these suggested realities instead of the actual realities. That’s part of the intrinsic focus: how does that happen; when is it out the limits of perceptions; how far can we take them; and what does it really mean in terms of information processing and the cognitive part of this relationship between conscious and non-conscious processes? So, as you can tell we can go in a thousand different directions and ask far more questions than we actually have the answers to, but I think that when you operate in the world I operate in, which is the clinical world, to be able to induce hypnosis, guide people into hypnosis, provide them with these suggestions about ways that they can experience themselves differently that will enhance their quality of life, and then see them actually do that, is fascinating. It’s been a long career for me, 45 years now, of watching people go through these procedures that we call hypnosis and generate these remarkable shifts in their experience as a result.
RH: I’m delighted that you took the time and space in the book to actually describe some of the methods that we look at the brain – fMRI, SPECT, PET – it’s a really great education for anybody, a lot of people involved in neuropsychotherapy will find that section of the chapter really informative. It was delightful.

MY: I hope so. I’ve made the book as thorough as I know how to make it given the space limitations. I could have written 20 volumes out of all the information available.

RH: What’s also delightful in pointing out those various forms of the way we explore how the brain may or may not be working in any given situation, is that you do point out, as I do when I speak, that we’re still a bit club fisted, still a bit clumsy in using these mechanisms. For example, an fMRI is a very noisy experience which is not necessarily conducive when investigating some of the relaxed methods like hypnosis or mindfulness and meditation. This is really good information to bring to our attention. I want to just amplify that you are very thorough.

MY: Thank you, there’s a lot of work that went into it. You talk about the noise factor in the fMRI, and, of course, that is a factor because you can’t really measure how intrusive it is in terms of the ability to respond and yet, at the same time, that’s not the most confounding factor. The most confounding factor is that we are more than our brains. Even when you are watching someone go through an fMRI and you’re seeing that this part of the brain becomes more active than that part of the brain, which is interesting, but it doesn’t tell you what they’re reactive with. It doesn’t tell you what’s actually going on in there. I don’t know that we will ever reach that point of sophistication, but those are the underlying questions. When somebody is able to demonstrate this remarkable hypnotic capacity – what’s actually going on in there? It’s not just brain activity, there’s something else that we can’t yet define or measure that’s happening. That’s an important point, too. When people try and oversimplify hypnosis, they’ll say things that are just patently wrong. Some say that hypnosis is about delta waves or alpha waves, or that hypnosis is about right hemisphere activity – things have been soundly disproven – I think that the take away message for anybody listening to this is that there is not yet a reliable neurological signature where you can look at a brain...
in hypnosis being measured by any scanning technology currently available and be able to say, “That person is in hypnosis.” It’s just too variable across people. We’re getting to the point where we’re starting to see tendencies, but we’re still a long way away from being able to identify a “hypnotic state”.

RH: This is the attitude we’re taking at The Neuropsychotherapist, and the Science of Psychotherapy, that what we’re looking at is a development of interesting and potentially useful information which can guide us, perhaps inspire new thoughts and new ideas, and perhaps give us some confidence about ideas that we may well already have, but, as yet, quite a lot of what we’re doing in neuroscience is still altering and changing and shifting, as you say. It’s the idea of continuing to move forward in therapeutic practice hoping to deepen our understanding and improve the nature of our experience. Is that what we are hoping for?

MY: That begins with a premise that this will one day be measurable scientifically and I’m not confident about that. In the same way that we have yet to arrive at a precise definition of love or patriotism, we have yet to develop a satisfactory definition of hypnosis. Here’s something that has been around for how long? Hundreds of years certainly, possibly thousands of years – and we’re no closer to defining it now than we were 10 years ago or 50 years ago. It’s really amusing to me, in a way, because in the world hypnosis the American Psychological Association has an entire division called the Society of Psychological Hypnosis dedicated to the field of hypnosis and roughly every 10 years, or so, they appoint a “blue ribbon panel” whose job it is to define hypnosis. To me, it’s simply amusing that you get these guys together to try and figure out how to define this in a way that’s going to be acceptable to the majority of people. Every time they do this, for the next year everybody spends time shooting it down and arguing why it’s inadequate. Then we wait around for the next nine years for the next definition to come out. I’m not so confident that you’re ever going to be able to define this in a precise way, much less measure it in a precise way.

RH: Absolutely, and I think that, not so much a lack of confidence in actually getting out a clear definition, but that understanding that we keep growing in our understanding is expressed in the fact that this is the 5th edition of your book. That from 1984
there are new things, new shifts. Michael Yapko's mentalisation of this process has shifted and changed and re-organized, yet the work you do the good work you do was good work in 1984 and its good work now in 2019. I've only been watching you since 2005 when I came into the Milton Erickson Foundation's arena through my mentor honest Rossi, but every time I've watched you work I've seen you do good work. Quite often, I see you do new and interesting variations, but it's always good work.

That ability to frame yourself around that focus, is that something that we need to teach more rather than teaching methods? I'm not sure how you might define that approach within the practitioner themselves?

MY: Well, I'm not sure I'm any better at defining what I do than anybody else is. I know there is a phrase that I most commonly use – attention with intention. The study of hypnosis really is the study of attention of what happens when people get focused – when people experience a natural disassociation as they detach from the usual cues that guide their perceptions and make it possible for them to respond to suggested ideas, suggested realities, entirely subjective kinds of experiences. Once people suspend reality testing for a while the same way they do when I watch a good movie or television program or read a good book and start to entertain other ways of thinking about things and other ways of experiencing themselves, a very important perceptual flexibility evolves and of course flexibility is therapeutically the grist for the mill. This is one of the things I think was most useful from Milton Erickson's work. Not long before he passed away, one of my colleagues asked him, “Dr Erickson you've never really formally stated a theory of
psychopathology. What do you think causes people's problems?” and Erickson had a one word answer, “Rigidity”. The goal is flexibility. How can I help this person flexibly behave differently, feel differently, respond differently, view things differently. That common denominator of always reframing is the essence, I think, of any good psychotherapy. The necessity to continually evolve and the necessity to continually adapt is a given. As you point out, the reason there is a 5th edition is because the field keeps changing. It keeps growing as the volume of research grows and the quality of research grows. Just from the 4th edition in 2012 to the new 5th edition, hundreds of studies have been published, high quality studies, that force me to redefine what I think I know. If you look at all the ways ideas change about the nature of therapy, the nature of the therapeutic relationship and the nature of suggestion, then if I was king of the therapy universe I think my first mandate would be that anybody who's undergoing training in counseling or doing therapy of any kind would learn hypnosis to learn the communication skills and to learn to adopt the perspective that influence is inevitable. Now, how do we influence people for the better?

Michael D. Yapko, Ph.D., is a clinical psychologist and marriage and family therapist residing in Fallbrook, California. He is internationally recognized for his work in developing strategic, outcome-focused psychotherapies, the advanced clinical applications of hypnosis, and active, short-term non-pharmacological treatments of depression. He routinely teaches to professional audiences all over the world. To date, he has been invited to present his ideas and methods to colleagues in more than 30 countries across six continents, and all over the United States.

Dr. Yapko is the author of 15 books and editor of three others, as well as the author of dozens of book chapters and journal articles. These include his two newest books, The Discriminating Therapist and Keys to Unlocking Depression, as well as his popular text Trancework: An Introduction to the Practice of Clinical Hypnosis (4th edition), and the award-winning Mindfulness and Hypnosis.

Dr. Yapko has been a passionate advocate for redefining how we think about and treat peoples' problems, especially the most common ones of anxiety and depression. He has been a vocal critic of medicalizing such problems by calling them illnesses when there is substantial evidence that they are about much more than biology alone.

On the personal side, Dr. Yapko is happily married to his wife, Diane, a pediatric speech-language pathologist who specializes in the treatment of autistic spectrum disorders. Together, they enjoy traveling and hiking in the Great Outdoors in their spare time.
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SPOTLIGHT

Flavio Cannistra
Where in the world are you based?

I live close to Rome, Italy, but I am fortunate to work all around the *Bel Paese*. This is an affectionate term for Italy that simply means “beautiful country” and can be traced back to the Middle Ages in the writings of Dante and Petrarch. It is still a popular term today.

What were your areas of psychology/psychotherapy study in Italy?

I’m a licensed psychologist (MD) and psychotherapist (PsyD). My initial academic study was in clinical psychology. After five years at the university, initially focusing on Jungian, I oriented my studies toward brief therapies. I have now extended my studies to include *single-session therapy*, *solution focused therapy*, *strategic therapy* and *Ericksonian hypnosis*.

You have traveled to the US for additional study. Who did you study with and what did you learn?

I first traveled to the US to study Single-Session Therapy (SST) with Michael Hoyt, in California, at the Mental Research Institute. Dr Hoyt is one of the leading experts in brief therapy having written a number of books. I am fortunate to be able to continue having exchanges with him. I have also traveled to Australia, to the *Bouverie Family Center*, to learn their Single Session Therapy model.

When and why did you set up the Italian center for Single Session Therapy?

I decided to set up the centre a few months after my travels in the US. I had been studying SST for about a year and I was able to find research, but in Italy there were almost no one talking about it or researching it. My strong in-
interested is in how to help people to achieve the best in less sessions. SST is, clearly, a great opportunity to do that. So, I start the International Centre for Single Session Therapy (ICSST) in Rome with my friend and colleague, Federico Piccirilli, to provide training, research and information about SST. Our website is now receiving interest and we are building a positive reputation. You can find us at https://www.ter-apliasedutasingola.it/

What is the concept behind a single session of therapy?

This is truly fascinating. Dr Hoyt told me that when you look at the research, the most common number of sessions in therapy is... zero. People (we) solve our problem mostly without any therapist. It is surprising how many people call to make an appointment and then cancel because they find they are feeling much better! When they do come for therapy, a large number (20–40%, depending on which research you read) only stay for one session. Why? Most of them (40–60%) say that it’s because that single session was helpful. These results continue at follow up for 60–80% of them. So, SST is a method that has emerged from how people use therapy. It is a resource-based method, which helps them to use their strengths to solve their problems, even if the problems are quite complicated. Dr Hoyt says, with a little bit of tongue in cheek, that it only takes one session to resolve someone’s issue – the trouble is that we don’t know which session that will be. Although said with a certain amount of jest, it is true that there is often a breakthrough that makes a sudden shift for the client. The preliminary sessions may well just be establishing the right conditions for the single, effective session.
What areas of neuroscience are of interest to you?

I don’t consider myself an expert of the field, but I’m very interested in the explanations that neuroscience gives as to how psychotherapy make changes in the brain. There are many areas that interest me including brain plasticity; mirror neurons; and the neurological basis of emotions.

If there was one thing you would like to impart to a new psychotherapist, and perhaps a new teacher, what would it be?

I recommend that therapist point to the client’s resources and ask the client what could be the best way to solve their problem. You may be surprised what you find and what the client finds, when you start by exploring the client’s skills and resources, before putting your techniques and theories on them.

What’s ahead for you in the next 12 months?

In October, I will be at the 3rd International Symposium on Single Session Therapy, in Melbourne, Australia, as an invited guest. I will also be at the European Brief Therapy Association’s conference, which will be held in Italy for the first time. The ICSST engages in research into SST and we have just completed a pilot research project that confirms the main results of other research on SST. We are now working on a more rigorous research project. We are working on the English translation of our Italian SST book, which provides the principle and practices of SST in a very clear and straightforward way. I’m working with Michael Hoyt on what we call “the 9 logics in brief therapy”. This is a way to reduce complexity and increase “easiness” in therapy. We hope to have an article out about that soon. Finally, I am pleased to have a chapter in the upcoming book, edited by Hoyt and Bobele titled Creative Therapy in Challenging Situations. I look forward to a challenging, but exciting year ahead.
A KAIST research team identified the intrinsic control architecture of brain networks. The control properties will contribute to providing a fundamental basis for the exogenous control of brain networks and, therefore, has broad implications in cognitive and clinical neuroscience.

Although efficiency and robustness are often regarded as having a trade-off relationship, the human brain usually exhibits both attributes when it performs complex cognitive functions. Such optimality must be rooted in a specific coordinated control of interconnected brain regions, but the understanding of the intrinsic control architecture of brain networks is lacking.

Professor Kwang-Hyun Cho from the Department of Bio and Brain Engineering and his team investigated the intrinsic control architecture of brain networks. They employed an interdisciplinary approach that spans connectomics, neuroscience, control engineering, network science, and systems biology to examine the structural brain networks of various species and compared them with the control architecture of other biological networks, as well as man-made ones, such as social, infrastructural and technological networks.

In particular, the team reconstructed the structural brain networks of 100 healthy human adults by performing brain parcellation and tractography with structural and diffusion imaging data obtained from the Human Connectome Project database of the US National Institutes of Health.

The team developed a framework for analyzing the control architecture of brain networks based on the minimum dominating set (MD-Set), which refers to a minimal subset of nodes (MD-nodes) that control the remaining nodes with a one-step direct interaction. MD-nodes play a crucial role in various complex networks including biomolecular networks, but they have not been investigated in brain networks.

By exploring and comparing the structural principles underlying the composition of MD-Sets of various complex networks, the team delineated their distinct control architectures. Interestingly, the team found that the proportion of MDSets in brain networks is remarkably small compared to those of other complex networks. This finding implies that brain networks may have been optimized for minimizing the cost required for controlling networks. Furthermore, the team found that the MDSets of brain networks are not solely determined by the
The Neuropsychotherapist

The degree of nodes, but rather strategically placed to form a particular control architecture.

Consequently, the team revealed the hidden control architecture of brain networks, namely, the distributed and overlapping control architecture that is distinct from other complex networks. The team found that such a particular control architecture brings about robustness against targeted attacks (i.e., preferential attacks on high-degree nodes) which might be a fundamental basis of robust brain functions against preferential damage of high-degree nodes (i.e., brain regions).

Moreover, the team found that the particular control architecture of brain networks also enables high efficiency in switching from one network state, defined by a set of node activities, to another – a capability that is crucial for traversing diverse cognitive states.

Professor Cho said, “This study is the first attempt to make a quantitative comparison between brain networks and other real-world complex networks. Understanding of intrinsic control architecture underlying brain networks may enable the development of optimal interventions for therapeutic purposes or cognitive enhancement.”

This research, led by Byeongwook Lee, Uriyong Kang and Hongjun Chang, was published in iScience (10.1016/j.isci.2019.02.017) on March 29, 2019.

Source: https://www.kaist.ac.kr/

WHEN IT COMES TO LEARNING, WHAT’S BETTER: THE CARROT OR THE STICK?

Does the potential to win or lose money influence the confidence one has in one’s own decisions? Does either of them help learn more quickly? Researchers from the University of Geneva (UNIGE), Switzerland, in collaboration with the University of Amsterdam and ENS Paris, investigated confidence bias in a learning context through a system of monetary punishment and reward. They demonstrated that we become more confident in our choices when learning to seek rewards than when learning to avoid losses. However, this confidence rapidly evolves into over-confidence, which leaves us thinking that we are better than we actually are. Learning in a loss context mitigate these errors of judgment. Moreover, the prospect of monetary gains makes us less flexible, while the fear of losing money preserves our ability to adapt. You can read all about these results in the journal PLoS Computational Biology.

Evaluating one’s learning performance relies on how confident one feel about her decisions. But can our ability to learn and to judge our decisions be influenced by economic fac-
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tors? In other words, do we judge our performance identically when faced with a situation that involves monetary gain or loss?

The UNIGE researchers tested 84 participants to investigate confidence bias in the context of reward or punishment-based learning, known as reinforcement learning. “The principle is simple,” begins Maël Lebreton, a researcher in UNIGE’s Swiss Centre for Affective Sciences (CISA). “Participants were shown two abstract symbols on a screen. One symbol was associated with a 75% probability to win 50 cents in and the second one only 25% probability to win. On each trial, they had to choose one of the symbols to try to win and evaluate how confident they were in their choice. As the task progressed, the subjects learned to refine their decisions by identifying the symbol that paid out the most.” The principle was reversed for the loss: participants were asked to select the symbol that was associated with the lowest probability to lose money and then assess the accuracy of their decisions.

Confidence is intensified when the aim is to win money

The initial results showed that the ability to learn is statistically identical when participants learn to seek gains and when they learn to avoid losses. On the other hand, participants were much more confident when it came to making money rather than avoiding losing it. “There’s a 10% boost in confidence!” says Lebreton. Given that the task and performance were the same, one should expect similar levels of confidence. This difference demonstrates the existence of a bias in learning and confidence judgments introduced by the economic context.

Yet, the increase in confidence in the gain context is not necessarily a good thing. “It’s normal for confidence to increase during the learning process because participants increasingly choose the most profitable symbol. But this phenomenon is intensified when it comes to the pursuit of gain: participants end up clearly overestimating their performance. This over-confidence, which is at about 10%, is not there when it comes to avoiding losing money”, says Lebreton. In fact, in a negative context, people tend to doubt their choices, which means they evaluate them more accurately. “But this doubt could turn to anxiety and potentially make participants ultimately loses all their confidence”.

Fear of losing makes people more flexible

Half of the participants then underwent a second experiment: the researchers reversed the quality of the symbols, making the best the worst. Participants in the context of financial gain had more difficulty noticing this change and adapting, while those in the context of financial loss quickly noticed the change and were flexible. “This is probably the result of evolution: when there’s a danger, you have to think quickly and adapt your decisions, while when everything is going well, we try to maintain the positive situation,” explains Lebreton. The implies that the desire for gain induces a certain inflexibility among learners, who think
that what has paid out once will always pay out.

These results demonstrate that teaching should be tailored to what we want an individual to learn and how. “The learning context is crucial. The fear of loss makes people anxious and they begin to doubt their choices; yet it also provides more flexibility and accuracy. The lure of profit, on the other hand, boosts self-confidence and well-being but reduces our ability to make assessments. Then it’s a question of striking a balance between the two elements”, continues the Geneva-based researcher. “We also found that participants made their choices faster in the positive context than in the negative.” Accordingly, it is a good idea to list the different forms of learning to see which type you want to prioritise speed, confidence or accuracy? And then to choose between reward and punishment depending on the goal to be achieved.

The scientists will now try to determine which areas of the brain are related to loss and gain, and which areas affect confidence. They will then be able to see how they communicate with each other and affect our judgments and decisions.


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THE NEUROBIOLOGY OF NOSHING: WHY IS IT SO EASY TO OVEREAT CALORIE-RICH TASTY FOODS?

When you eat something super tasty, ever wonder why you really don’t want to stop even though you know you’ve eaten enough? Scientists at the UNC School of Medicine may have found the reason.

In lab experiments, Thomas Kash, PhD, the John R. Andrews Distinguished Professor in the Department of Pharmacology, and colleagues discovered a specific network of cellular communication emanating from the emotion-processing region of the brain, motivating mice to keep eating tasty food even though their basic energy needs had been met.

The existence of this mammalian brain circuit, described in a paper in Neuron, might help explain why humans so often overeat in our modern environment of abundant and delicious fare. The circuit is a byproduct of evolution, when large calorie-rich meals were scarce, and so our brains were wired to devour as many calories as humanly possible because no one knew when the next super meal would come.

“This circuit seems to be the brain’s way of telling you that if something tastes really good, then it’s worth whatever price you’re paying to get to it, so don’t stop,” Kash said.

Scientists in search of anti-obesity remedies have spent decades researching and targeting
brain cells and circuits involved in ordinary, “homeostatic” feeding, which is triggered by hunger and keeps our energy level up. But this approach has had limited success. More recently, some scientists have been studying “hedonic” feeding – the pleasure-driven eating of calorie–rich food that tends to go way beyond our strict energy needs.

Hedonic feeding is thought to reflect modern humans’ lingering adaptation for ancient environments where famines were frequent. Perceiving calorie–rich food as particularly tasty and pleasurable, and binging on it whenever it was available, would have conferred a crucial survival advantage by storing up extra energy. Following that instinct now, in a time of plenty, can lead to obesity – a condition affecting about 40 percent of adults in the United States – and related conditions such as diabetes, heart disease, and cancers.

“There’s just so much calorically dense food available all the time now, and we haven’t yet lost this wiring that influences us to eat as much food as possible,” Kash said.

Experiments in the past few years have suggested that our wiring for hedonic feeding involves nociceptin, a small protein that works as a signaling molecule in the mammalian nervous system. Kash’s laboratory and other groups have found that compounds blocking nociceptin activity – called nociceptin receptor antagonists – have little or no effect on homeostatic feeding by lab rats and mice, but these compounds do curb hedonic binging on tasty, calorie–rich foods. Thus, drug developers have eyed these antagonists as potential anti–obesity, anti–binge–eating drugs, and researchers have been eager to identify the specific brain circuits through which they work. The goal would be to develop a more targeted treatment.

Identifying this circuit is largely what Kash and colleagues accomplished in their new study. They engineered mice to produce a fluorescent molecule along with nociceptin, literally illuminating the cells that drive nociceptin circuits. There are multiple nociceptin circuits in the brain, but Kash and colleagues observed that one in particular became active when the mice got a chance to binge on calorie–rich food. The circuit projects to different parts of the brain, including those known to regulate feeding. It starts in an emotion–processing region of the brain called the central amygdala.

Deleting about half of the nociceptin–making neurons in this circuit reduced the mice’s binging and kept their weight down when they had access to rich food, without affecting their intake of ordinary chow.

“Scientists have studied the amygdala for a long time, and they’ve linked it to pain and anxiety and fear, but our findings here highlight that it does other things too, like regulate pathological eating,” Kash said.

He and his team are now studying in more detail how this circuit works, the timing of its activity in relation to feeding and other factors, and how nociceptin antagonists alter its functions.
First author J. Andrew Hardaway, PhD, research assistant professor of pharmacology at the UNC School of Medicine, said, “Our study is one of the first to describe how the brain’s emotional center contributes to eating for pleasure. It adds support to the idea that everything mammals eat is being dynamically categorized along a spectrum of good/tasty to bad/disgusting, and this may be physically represented in subsets of neurons in the amygdala. The next major step and challenge is to tap into these subsets to derive new therapeutics for obesity and binge eating.”

Other scientists are studying nociceptin antagonists as possible treatments not only for obesity and binge-eating but also for depression, pain, and substance abuse.

“The behavioral effects of blocking nociceptin activity probably involve multiple mechanisms in the brain,” Kash said. “But on the whole, blocking nociceptin seems to stabilize behavior, bringing it closer to normal.”
