SYMPOSIUM REVIEW

Incubating the Future: Self-Directed Neuroplasticity and the Adaptive Mind

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The human brain's capacity for change has always been central to therapeutic work, but recent convergences in neuroscience, trauma research, and contemplative practice are reshaping how we understand—and facilitate—that change. At this year's International Neuropsychoanalytic Association Congress, our symposium brought together three distinct but complementary perspectives on what we termed *self-directed neuroplasticity:* the brain's remarkable ability to rewire itself through conscious, relational engagement.

What emerged from our exploration challenges a longstanding clinical assumption: neuroplasticity is not just something that happens to our clients, it is something they can actively direct, with the right understanding, support, and practices.

I opened the panel by presenting an integrative clinical framework I call the Functional PsychoNeuroBiology™, grounded in neuroscience and psychoanalysis. As a neurologist, neurorehabilitation specialist, and psychoanalytically trained clinician, I emphasized that the same neurobiological mechanisms that shape early development, such as Hebbian wiring (neurons firing together—wiring together), connectome formation, brain laterality (right-left hemisphere coordination), and autonomic regulation—remain active across the lifespan. These mechanisms, initially formed through relational experiences that start in one's mother's womb, can be reorganized through new relational experiences.

Drawing on Eric Kandel's principles of mental functioning and Paul MacLean's Triune Brain model, we can see how early caregiving environments impact the developing connectome in ways that ripple throughout the lifespan. When early experiences are attuned and responsive, they support the integration of primitive survival circuits with higher-order systems responsible for reflection, empathy, and complex reasoning. When they're disrupted, they can create patterns of reactivity that bypass our more evolved capacities. By engaging therapy, mindfulness, and self-regulation practices, clients can actively reshape maladaptive circuits. The early mind that once recorded the past can become a blueprint for a different future.

Dr. Victoria Grinman, a psychotherapist and trauma researcher specializing in Post-Traumatic Growth (PTG), introduced PTG as a hopeful clinical lens. Unlike resilience, PTG involves the emergence of a new identity forged through adversity. It reflects a neurobiological shift from automatic, intrusive rumination to deliberate, meaning-making reflection. Dr. Grinman outlined five domains of PTG: personal strength, new possibilities, relating to others, appreciation of life, and spiritual change—as markers of neuroplastic reorganization. Her approach encourages clinicians to support these transformations organically, trusting in the brain's adaptive potential rather than forcing change.

Dr. Jeffrey Rubin, a psychoanalyst, author, and integrator of Eastern contemplative and Western psychodynamic traditions, offered a deeply experiential perspective. Drawing from Buddhist meditation and Chinese qigong, he guided attendees through a four-step process: identifying stuck patterns, meeting them with loving awareness, decoding their emotional logic, and practicing new ways of being. Dr. Rubin demonstrated how attention itself is neuroplastic: when we bring awareness to unconscious patterns, we activate brain regions that promote emotional regulation and integration. These practices aren't just complementary—they are direct interventions in neural reorganization.

Together, these three approaches—neurobiological, PTG-lens, and contemplative—form a transdisciplinary vision of therapy as collaborative brain change. The brain that adapted to early environments can adapt again, in response to new experiences of safety, reflection, and relational attunement.

This understanding offers both practical tools and renewed hope: we are not fixing broken brains—we are partnering with adaptive ones.