



Understanding 'Mental Illness'

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As hundreds (several sources claiming thousands) of so-called “psychotherapies” have been foisted onto the public, all claiming to treat “mental illness,” newer understandings of how the human brain actually works and the processes which drive the formations of mentation that we refer to as “the mind,” demand a reassessment of what exactly we are referring to by the term “mental illness” and what kinds of intervention would be feasible in both the prevention of and recovery from cognitive and behavioral disorder (i.e., so-called “mental disorder”).

A fundamental process in the formation of an individual’s mentation is the associations of experience. These associations not only account for constructive behavior, but can also lead to deleterious or negative behavior, suggesting that some associations are negative and therefore the negative behavior can be remolded through contrasting positive associations; however, to understand what this really means and how it works, we must start at the beginning and define what exactly is this negative behavior that we refer to by the term “mental illness.” One of the most important axioms of life so simply but profoundly phrased by Oscar Wilde, is that “the truth is rarely pure and *never* simple” (emphasis mine). Nothing can ever be explained by simple sound bites – oversimplification is just another word for misrepresentation – so to understand, we must truly engage the subject, and to engage the

subject, we must first and foremost clearly define what it is that we are seeking to understand. In this case, it demands that we understand what exactly *is* “mental illness.” I recently designed a course entitled “Healing the Mind” that seeks to clarify major issues in the concept of mental illness by critiquing how mental illness may be defined and examining the criteria by which different modalities are applied in its treatment. The course reexamines basic questions concerning mental illness and its treatment. What are the basic psychological needs that maintain a cognitive cohesion for effective social integration and self-fulfillment and how are these needs molded by cultural parameters? Is mental illness in one culture mental health in another? At what point in a person’s behavior does it become labeled mentally ill? By what criteria? We are all unique, each with unique goals, dreams, rules and philosophy of life. How do we distinguish uniqueness from mental illness?

Sometimes through circumstances beyond one’s control, one may experience a highly traumatizing event unpalatable to one’s sense of acceptable reality or become trapped in a long-term situation fundamentally antagonistic to one’s very core of being. In such cases the roots of one’s self-cohesion may be severely undermined, threatening the disintegration of self-conception. In these circumstances defense mechanisms – instilled in the human brain and its cognitive engine through evolutionary development – switch on cognitive screens that reduce perception, or in greater exigency, distort or even block out the offending environment in preserving some sense of self-identity and protecting the brain from more serious damage to neural tissue that occurs in physiological response to such direct assault on the threads of being. Is this not mental health rather than mental illness, analogous to the immune system producing inflammation, swelling, fever, pus, and associated pain in isolating and killing invading microorganisms in maintaining bodily health?

How are we to define mental illness and treat it? What constitutes cognitive and behavioral balance? What is the implication of the sick society on the understanding of mental health? What are the social/environmental conditions that cause cognitive and behavioral imbalance? What mechanisms in the brain maintain cognitive and behavioral balance? What techniques may be applied to recruit these mechanisms and how do they work? These are the questions answered by the theoretical perspectives and emergent principles forming the basis of the innovative modality of Cognitive Neuroeducation (CNE).

In answering these questions, CNE constructs a very basic outline of cognitive neurophysiology as the foundation for a model of the mind that explains human behavior and the characteristics that define us as uniquely human, unveiling the genesis of cognitive and behavioral disorder and the principles that may be applied in effecting the prevention and remediation thereof. The categories of this outline are as follows:

The Social Brain – An Evolutionary Development of the Anatomically Modern Human (AMH)

- Learned vs. preprogrammed behavior
 - o Fixed action patterns vs. pseudo-fixed action patterns
 - o Genotype, phenotype and affective profile
- Cooperation: The key to human survival
- Formation of the human social brain
- Behavioral precepts of the social brain

- Human experience as social phenomena
- Learning: The central operating principle of the social brain
 - o Learning as social interaction
 - o Learning as the medium of socialization
 - o Learning as phenotype [genotype + learning (experience) = phenotype (self)]
 - o Apperception: The mechanism of learning

Neurophysiological Processes of Cognition and Learning in the Human Brain

- Neuroplasticity – The principal neurophysiological mechanism of the human brain through which apperception occurs
 - o Neurons, neuronal firing and the synaptic interface
 - The anatomy of a neuron
 - The basic principles of neuronal firing
 - The chemical synapse and the propagation of the neuron spike
 - The electrical synapse
 - Synaptic interaction
 - o Synaptic strength modulation
 - The Hebbian model of long-term potentiation (LTP) and long-term depression (LTD) and non-Hebbian and anti-Hebbian forms
 - Homosynaptic plasticity
 - Heterosynaptic plasticity
 - o Modulatory input-dependent plasticity
 - Synaptic blooming (synaptogenesis) and pruning (synaptic elimination)
 - Glial cells and their function in the human brain
 - o Neurocircuits and the formation of neuronal networks in the brain

Neuroplasticity, apperception, and the formation of the mind

- Apperception as attention, apperception as perception/interpretation, apperception as learning, apperception as memory
- Emotive imprinting as a function of perception/interpretation
- Language as both the medium for more acute perception and fluid communication integral to early group survival in human evolution, as well as the cognitive facilitator for the evolutionary by-product of higher-order conceptualization and abstract reasoning

Cognition, Mind, Behavior and Consciousness

- Cognition as associations of data encoded in the constant instantaneously changing patterns of encephalic neuronal interconnectivity
- Consciousness refers to the liminal-supraliminal mentation and voluntary action in relation to the perceived external environment as driven by the continuous highly condensed filtered summation of an individual's cognitive schema formed from the moment-to-moment revolving multi-axis constructions of the autonomic cognitive processing engine of the individual
- The mind as the sum total of the dynamic interaction of an individual's cognitive constructs and the interface between cognition (i.e., the cognitive schema) and conscious behavior
- Behavior as the expression of the mind in interaction with self and the external environment. (Technically, the mind *is* behavior since an individual's mental state and thinking are manifestations of an individual's unique behavioral orientation and set of unique behavioral characteristics, so a distinction must be made between behavior that

constitutes the mind in toto and *conscious* behavior as a subset of liminal-supraliminal interaction directed by the mind.)

- Learning, positive behavior, synaptic connections and the enriched environment
- Neuroplasticity and the critical interaction between learning, social integration, cognition and behavior – encephalic neuronal interconnectivity, the mass action principle and encephalic neuronal connection strength modulation
- Acquired cognitive and behavioral dysfunction – the genesis thereof and the principles of prevention and recovery therefrom

Enlarging on the latter topic of the genesis of acquired cognitive and behavioral dysfunction and the principles of prevention thereof and recovery therefrom, a more detailed explanation is provided below.

Through the process of evolution, by which the human brain developed as a social brain, whereby all learning and behavior is constructed within the ongoing mechanism of socialization and all experience is internalized in a social context, behavior is a product of, and response to, social integration or lack thereof -- as socialization is defined as the internalization of experience (the interpretation and registration of information; i.e., the process of learning) shaped through the social milieu and its prevailing dictates as a function of the biological predisposition forged from the evolutionary process of the formation of the social brain of the anatomically modern human. With the exception of tissue degradation from organic pathology or physical injury, all acquired psychological problems, i.e., all acquired behavioral or cognitive problems, may then be said to be social integration problems — and since socialization and human behavior are learned and not prewired, all behavioral or cognitive problems are, in effect, learning problems.

Succinctly, since behavior is the expression of the mind in interaction with self and the external environment, and the mind is the resolution of cognition (the interface between cognition and conscious behavior), any behavioral problem is in fact born from a cognitive problem, the two terms are completely interlinked and both a cognitive problem and a behavioral problem translate into a problem of social integration, which in turn translates into a problem of learning. Learning is the process by which social integration is achieved, and social integration defines the extent to which cognition and behavior are effectively adjusted for positive, self-actualizing interaction with one's environment.

The emphasis then on both the prevention of and recovery from cognitive and behavioral disorder must be on learning by broadly exercising cognitive processes and stimulating the neuroplasticity of the brain, not only to optimize deep, enduring learning outcomes in and out of the classroom but also to effect positive, self-actualizing social integration. CNE achieves such outcomes through 1) absorbing content and engaged activities in an enriched environment of interaction; 2) a dialogic foundation of critical, sensitive, and constructive feedback and interpersonal bonding within a highly cohesive group dynamic; and 3) the facilitation of the voice of the individual.

Insights on Being Human

While we can understand human behavior and the human mind from a perspective that defines how we are a unique taxon within the animal kingdom, and can logically explain human fundamental behavioral characteristics and their evolutionary origins, such explanations give us no real understanding of the *essence* of being human. Understanding our essence is certainly no less important than understanding the biological determinants of evolution and the neurophysiology that makes us what we are. No doubt many would argue that understanding the essence of being human is of far more importance than understanding our evolutionary journey and neurophysiological makeup. But how do we understand that essence – how do we even start to examine what it might be? Since it is through our cognitive constructions that our own self-identity is created and the meaning of the world is formed, the object of our examination must be the mind, not as a constellation of cognitive machinery, but as an individual identity aware of its own mortality interacting with the world of its own construction. What does it feel like to be human, to be alive, to navigate the social boundaries of our own making – to live in the palaces and dungeons that we have constructed in our own minds? How do we begin this exploration – can we simply introspectively examine our own experiences of life? No, because we can never be sure that the experiences of our own experience are not just ever-tightening circles of self-reinforcing distortion entrapped within the walls of our limited cognitive constructions. As social beings, we learn to understand the world around us through social reinforcement, therefore we need to look into the experiences of others to validate our own.

Wilhelm Dilthey, in introducing a systematic methodology for the study of the human condition, argued around the turn of the 20th century that individual consciousness, a phenomenon uniquely experienced by each individual, lies beyond vocabulary or verbal malleability to definitively relate in all its subtleties and paradoxes of feelings and impressions, and can never be truly known outside a single, closed, individual perspective. From the fuller understanding today of the neurophysiology of the human brain, it can be seen how even the individual perspective is severely limited, as the driving forces of conscious orientation, both multitudinous and instantaneously transformed in the ever-changing complex of assemblages of cognitive constructs in the autonomic machinery of cognitive processing, are imperceptible to the slower, highly-filtered, more summary-based conscious processing apparatus. Dilthey stated that neither consciousness nor the subliminal experiences or constructs of perception that underlie consciousness, closed to intersubjective examination, could be a valid realm of study; however, essential clues to individual human experience and universal manifestations of the mind could be extracted from the *products* of human consciousness in all forms of expression such as folk tales, myths, legends, superstitions, religions, history, philosophy, scientific theories and explanations, literature and the arts, etc. – which could be studied directly, concretely, intersubjectively, and analyzed in critical, constructive, objective, systematic ways.

In CNE we examine conceptualizations, reactions to situations, beliefs, modes of social interaction and interpersonal relationships, emotive contours, flights of imagination, aesthetic visions, creative artistry and nuance, duty, purpose, loyalty, love, spirituality, sense of destiny and myriad other products of the mind in a variety of contexts through a range of media by which we gain insights on the essence of being human. We study behavior through a variety of media, learning how to interpret frames of meaning from the interplay

of motifs, vocabulary, syntax, overall compositional structure and basic concepts of psychology using the techniques of hermeneutics and phenomenology, whether in literature, a piece of music, a drama, motion picture film, theological or religious doctrine, dance performance, etc. In answering the criticism that a large component of such a variety of works are creative and often fanciful and do not reflect real life; they are, however, indisputably products of the mind – the depository of all that we experience – and therefore representative of our hopes, dreams, fears, longings, visions, imaginings, in short, the true essence of being human, and in such dialogue and group experience, we learn what it is to be human and how to connect with others and through that connection with others, discover our very own personal, unique core of being, reforming our cognitive constructs in redefining a more positive, personal, harmonious lifestyle supporting balanced, self-actualizing behavior, fluid, engaged social integration and a real, unequivocal bonding and positive, self-affirming reengagement with oneself, with others and with life itself.

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