

## **Douglas Watt Ph.D. Summary - September 25, 2007**

**Brian Johnson**

Depression: an evolutionarily conserved mechanism to terminate separation-distress? A review of aminergic, peptidergic and neural network perspectives.

A wonderful thing about neuropsychanalysis is the concept of “dual-aspect monism.” This refers to solving the mind-body dichotomy by being able to explain the same phenomena psychologically and biologically. Each informs the other, and one gets an ideographic and nomothetic synergy.

Doug delivered a paper that he has nearly completed with Jaak Panksepp as his coauthor. Their thesis is that for depression to be such a common disorder it must have survival value – or it would have been eliminated from the genome in past millennia. Their solution is that the extreme protest of separation distress must have a program for termination if the caregivers do not respond; persistent protest by an unaware organism exhausts energy stores and becomes a beacon for predators. This is the psychological explanation.

Doug then reviewed a great deal of material; too much to put in a summary. The elevations of corticotrophin releasing factor and cortisol, the deprivation of opioids that results in inhibition of the SEEKING system, the lack of oxytocin and prolactin, overdriving of the locus ceruleus leading to norepinephrine depletion, shutdown of reticular-limbic-paleocortical energizing systems – and many other neurobiological sequelae of extended distress – give the biological explanation. Depression is the result of a terrible brain insult.

With this theoretical grounding in separation as an underlying issue, and the interrelated cascade of neurobiological events, depression becomes a more articulated illness. How would one intervene with a patient who was in this depleted state, antidepressants? psychotherapy with a focus on anaclitic issues? psychotherapy with a focus on abandoning introjects? brain-derived neurotrophic factor stimulants? A neuropsychanalytic approach allows one to begin to consider how each would be evaluated and tested.

## **Discussion of Doug Watt's Presentation on Depression and Further Questions**

**Toni Greatrex**

Doug has presented us with an important hypothesis. Depression is an evolutionarily conserved mechanism in mammalian brains selected to shut down prolonged **separation distress**.

The core part of Doug's hypothesis rests on Panksepp's work on the periaqueductal gray (PAG) and ventro tegmental area (VTA) of the mid-brain but moves beyond it, identifying higher mid-brain and subcortical structures and the neurochemical cascades associated with them.

What psychoanalysts might prick up their ears to is that Jaak Panksepp identified a subcortical attachment track in the mid-brain before **attachment** became a household word not only in our discipline but in our culture. This **attachment system**, which is part of the PAG fiber matter in the mid brain, can be stimulated for positive affect seeking through the release of opioids, oxytocin, and prolactin in both genders. Conversely, classical stress cascades, involving increasing CRF, decreased opioids, and oxytocin, will create the agitation of separation distress.

In mammals, a fear-rage fiber tract is also a mid-brain component of the PAG. It is presumably a lower part of the **fight, flight, freeze** response which also involves the subcortical nucleus, the amygdala, which Le Doux calls, "the hub of the wheel of fear." Neuropsychology/ physiology has studied this subcortical "fixed action pattern" i.e. instinctual system, for almost a century. We know its value as a survival strategy lies in its instantaneous response time which is why it by-passes consciousness, and is not easily influenced by the conscious mind. It seems to be evolutionarily more ancient than the neurophysiological attachment/separation distress PAG system because it exists not just in mammals but in a variety of creatures, including lobsters, and birds. The fight, flight, freeze system has become part of the neurophysiological backbone of dissociation.