Safely Through the Rapids:

An Introduction to the Neurobiological Basis of the Human Emotional System

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Introduction to the Affect System
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Out of all of the incoming data, the hardwiring of the Limbic System highlights which data to pay attention to based on the intensity of neural density triggered by the incoming stimuli.
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Triune Brain

Neocortex
Limbic System
Reptilian Complex

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Neurons that fire together... wire together...
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The Negativity Bias of the Affect System:

**Two Positive Affects:** Interest - Excitement  
Enjoyment - Joy

**One Neutral:** Surprise - Startle

**Six Negative Affects:** Distress - Anguish  
Anger - Rage  
Fear - Terror  
Shame - Humiliation  
Disgust
Introduction to the Affect System

Mary Ainsworth, Ph.D. Attachment Theory

By the age of 12 months, Dr. Ainsworth determined that the baby had mapped the world around him/her in a manner which could be reliably and validly determined:

2/3 of 12 month old babies – mapped the world around them as Secure

1/3 of 12 month old babies – mapped the world as Insecure
Introduction to the Affect System

The Negativity Bias of the Brain

- Amygdala monitors the intensity of the incoming data
  - The negative Affects trigger the greatest rate and intensity of neural firing
- Hippocampus: Inhibits the amygdala
  Inhibits cortisol production
- Cortisol: Stimulates and sensitizes the amygdala
  Inhibits and can shrink the hippocampus
- Adrenalin: Is an antagonist to the hippocampus cells
Therefore, chronic negative experiences:

- Sensitize the amygdala “alarm bell”
- Weaken the hippocampus, which reduces memory capabilities and the inhibition of amygdala and cortisol production
- Creating vicious cycles in the nervous system, mind, and behavior
The Emotional Cycle

A Problem, Issue, or Difficulty occurs

The Limbic System reacts in milliseconds

Attack Others
Avoid/Divert
Attack Self

The Pit of Unresolved problems and Hurt Feelings

Emotional First Aid Kit

Reconnect to the Thinking Part of the Brain

Frontal Lobe

The Limbic System

The Restorative Questions

Good Feelings

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Withdrawal:
- isolating oneself
- running and hiding

Attack Other:
- "turning the tables"
- blaming the victim
- lashing out verbally or physically

Attack Self:
- self put-down
- masochism

Avoidance:
- denial
- abusing drugs and alcohol
- distraction through thrill-seeking
How Discovery School of Virginia uses this information re: the Neurobiology of the Human Emotional System