

SURVIVAL BASED MEMORY--Storage takes place within the **brainstem centers** that retain **1] unconscious motor memory** and **2] conditioned procedure memory**.

DISSOCIATION--[a.k.a. **recurrent-freeze**]--Mental states characterized by:

1. Disruption of conscious awareness
2. Distortion of memory
3. Distortion of affect (any experience of sensory-feeling or sensory-emotion)
4. Distortion of sensory-perception or distortion of sense of identity
5. Distortion of somatic bodily-sensations
6. Distortion of sensing-time
7. Periods of amnesia, periods of unreality, and periods of depersonalization
8. Conversion hysteria (deficits affecting voluntary motor and sensory functioning)
9. Fugue states (Hollywood type amnesia)
10. Multiple personality disorder
11. As a psychological escape mechanism from fear.
12. Recurrent-freeze a.k.a. dissociation.
13. **DISASSOCIATIVE = (HYPNOID) = daydreaming.**

SHAME--An expression of withdrawal from a social interaction. Shame expression with an early shame manifestation of the freeze response (a.k.a. dissociation); shame resulting in inadequate coping response strategies.

CORTISOL (excessive)

1. Salt and water retention
2. Increased brain activity (insomnia)
3. Promotes obesity
4. Promotes diabetes
5. Increases lactic acid

LIMBIC SYSTEM--Processes messages related to Threat and Survival.

SYMPATHETIC NERVOUS SYSTEM AROUSAL

1. Palpitations
2. Tremor
3. Muscle spasms
4. Hyperventilation
5. Perspiring
6. Cool, pale skin

PARASYMPATHETIC (vagus nerve a.k.a. 10th cranial) N. S. FREEZE A.K.A. DISSOCIATION

1. Bowel cramps
2. Indigestion
3. Nausea
4. Diarrhea
5. Generalized weakness
6. Warm, Red skin

CEREBELLUM

1. Balance
2. Coordination
3. Links to memory and emotional control

LOCUS CERULEUS: Rich connections with the primary sensory organs of the head and proprioceptive (movement) receptors in the neck.

AMYGDALA

1. Sensory input with regard to arousal or emotional content.
2. Evaluates the emotional meaning of incoming data from head-sensory organs and integrates memory image of the event with the emotional content of the event.
3. Most susceptible to kindling (recurrent freeze, a.k.a. disassociation).
4. Serving memory associated with arousal and anxiety.
5. Mediates processing of arousal-based memories.
6. Numerous viscerosensory and autonomic functions as well as an important role in memory, emotion, perception of threat, and fear learning.

HIPPOCAMPUS

1. The nerve center for verbal and conscious memory, forms a cognitive matrix for that memory image.
2. Damage results in the inability to store new conscious data as well as exaggerated responses to environmental stimuli.
3. Working memory of all facts and events.
4. Important for declarative (consciously recalled) memory and learning.

ORBITOFRONTAL CORTEX

1. Mediates the process of routing messages to appropriate areas of the cerebral cortex for more complex memory organization and to the brain-stem and motor centers for organization of defensive behavioral patterns that ultimately assure survival.
2. Organizes the bodies autonomic response to danger with the release of adrenaline, and of the hormones that mediate stress.
3. Regulation and modulation of the limbic (emotional) brain and the autonomic nervous system.
4. Master regulator of **a]** the limbic system **b]** autonomic nervous system **c]** hypothalamic pituitary adrenal axis, in processing arousal-based information.
5. Having strong connections to the hypothalamus, lesions can result in loss of inhibition, forgetfulness, and apathy broken by bouts of euphoria. (Phineas Gage example)

CINGULATE GYRUS

ANTERIOR CINGULATE-Serves an inhibitory gating function on fear conditioning by the amygdala. (The breaking mechanism on arousal.)

POSTERIOR CINGULATE--Helps regulate processing visual images. By right visual cortical enhancement during traumatic imagery.