

## BEHAVIOR AND MIND: EVOLUTIONARY AND DEVELOPMENTAL HIERARCHY

Genetic Biological Evolution--*led somewhat sequentially to*  
Motion  
Sensation & Perception  
External & Internal Communication--*utilizing*  
    Pheromones, Hormones, Neurotransmitters, & Neuromodulators (J.G.)  
Orienting Responses  
Exploration  
Recruitment of Information  
Learning--*both*  
    Associative & Non-Associative (J.G.)  
Memory--*consisting of*  
    Short-Term/Working  
    Long-Term/Reference--*involving*  
        Implicit/Procedural  
        Explicit/Declarative--*both*  
            Episodic  
            Semantic  
Representations & Intentionality--*involving*  
    Motivations & Emotions/Feelings--*utilizing*  
        Complex Facial Musculature--*for*  
            Kinesic Communication--*involving*  
                Nonverbal/Body Language  
    Thoughts--*utilizing*  
        Images, Sounds, etc.  
        Language (Symbolic Representation)  
Triune Brain--*consisting of*  
    Reptilian Brain (Brainstem)--*responsible for*  
        Innate, Stereotyped, Species-typical Behavior--*i.e.*  
            Feeding, Fighting, Fleeing, & Fornicating (The 4F's)--*necessary for*  
                Survival of Self & Species  
    Paleomammalian Brain (Limbic System)--*responsible for*  
        Emotion, Motivation, & Visceral Regulation  
        Enhanced Learning & Memory  
    Neomammalian Brain (Neocortex)--*responsible for*  
        Complex Stimulus Analysis, Precise & Variable Motor Control  
        Further Enhancement of Learning, Memory, & Abstract, Rational Thought  
Cerebral Hemisphere Specialization--*involving*  
    Distribution, Localization, & Lateralization of Functions--*with*  
        Sensory & Motor Areas  
        Association/Higher Cognition Areas--*including*  
            Language Areas--*for*  
                Comprehension & Generation  
            Emotion Areas  
Cultural Evolution--*involving*  
    Teaching/Propagation--*of*  
        Ideas & Customs/Rules--*which are*  
            Memes  
Interaction--*with*  
    Biological Evolution--*involving*  
        Genes--*which are*  
            Selfish