

Week 1: Consciousness

“Anything that we are aware of at a given moment forms part of our consciousness, making conscious experience at once the most familiar and most mysterious aspect of our lives. “

- Awareness of self and environment
- Given point in time
- At any moment, the mental events you are aware of exist at a conscious level
- Focus concentration, reflect, plan
- Understand sensory input as a single, accessible representation
- Provides an adaptive advantage
- Learning new behaviours

Processing outside of awareness:

- Well learned tasks are referred to as automatic
- Priming/Subliminal perception
- Shift attention
- Reconstruct memory
- First impressions (gender, age, appearance)
- Process information in parallel
- Some research has suggested that information can be processed and retained without attention/awareness
- Stimuli are rendered subliminal if they are attended to by the brain, but not consciously perceived

Levels of Consciousness (Freud):

- **Conscious:** What we are aware of
- **Pre-conscious:** That which we are not aware of but can be recalled (memory)
- **Non-conscious:** Outside awareness (blood pressure)
- **Unconscious/Subconscious:** Not aware of but influences conscious thought

Some states of Consciousness and Disorders:

- **Hallucinations:** Realistic perceptual experiences created in the absence of external stimuli (do not confuse with delusions, which are beliefs not based in reality)
 - can be auditory, olfactory, visual, gustatory, tactile
- **Deja-Vu:** Sense that you have experienced something previously and/or predict what is going to happen
- **Capgras Syndrome:** Individual becomes convinced that a friend/family member has been replaced by an imposter.
 - Origin is a disconnection between the temporal lobe (facial recognition) and limbic system (emotion)
- **Cocaine (stimulant):** Increased release of dopamine associated with euphoria, mental and physical excitation, decrease in hunger, increase in pain threshold, sense of well being
- **Alcohol (depressant):** Effects are wide-ranging and include feelings of: relaxation, elevated mood, increased talkativeness, and impaired judgment

Week 2: Consciousness pt. 2

“Sleep is a naturally recurring state characterized by reduced consciousness, suspended sensory activity, and paralysis.”

- Heightened anabolic state (development of immune system, nervous system, muscular, and skeletal systems)
- Controlled by **Circadian rhythm** (inner time-keeper, temperature regulator, enzyme- release controller that works alongside neurotransmitters in humans)
- Divided into rapid eye movement (REM) and non-rapid eye movement (NREM or non-REM)
- 5 identified sleep stages (cycle through every 90 minutes on average)
- Only stage 5 is REM
- Studied with electroencephalogram (EEG), electro-oculogram (EOG), and electromyogram (EMG) information
- Data displayed on a hypnogram

Brain Waves:

- **Beta:** Awake (19-60Hz, 30 microvolts)
- **Alpha:** Awake, eyes closed, relaxed (8-12Hz, 30-50 microvolts)
- **Theta:** Memory, emotion, limbic activity (3-8Hz, 50-100 microvolts)
- **Delta:** Deep sleep or comatose state (.5-4Hz, 100-200 microvolts)
- **None:** Brain death

Sleep Stages:

- **Stage 1:**
 - Transition from wake to sleep
 - Brief (minutes)
 - Hallucinatory state, falling/floating sensation
 - No memory of this stage