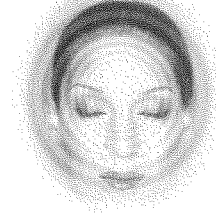
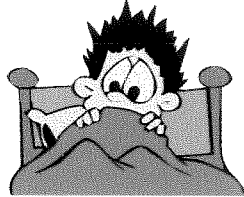
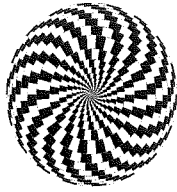


# States of Consciousness

Unit 5 (p.175)

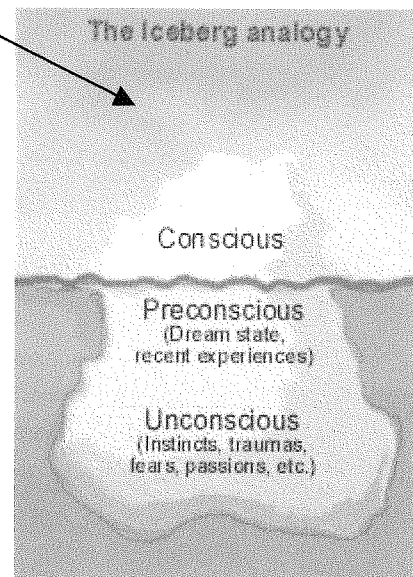


Have you ever had a really vivid or 'real' dream? Have you ever started day-dreaming and 'tuned out' everything else? What about having a nightmare or night terror? Unit 5 looks at how people act during the day, and how they act or respond when they sleep. We will also be examining hypnosis, sleep disorders, dreaming and dreams, and the effects of drugs and near-death experiences on our waking consciousness.

But ... What is consciousness? In every science there are concepts so fundamental they nearly are impossible to define. Biologists agree on what is alive but not on precisely what life is. In physics, matter and energy elude simple definition. To psychologists, consciousness is similarly a fundamental yet slippery concept.

**CONSCIOUSNESS:** our awareness of ourselves and or environment.

- Conscious awareness enables us to exert voluntary control and to communicate our mental states to others, yet consciousness is but the tip of the information-processing iceberg. Beneath the surface, subconscious information processing occurs simultaneously on many parallel tracks. (remember Freud & Personalities? 😊)
- Stephen Kosslyn and Olivier Koenig (1992) suggest that brain events are to consciousness what a guitar's individual notes are to a chord.
- As a chord emerges from the interaction of different notes, so consciousness emerges from the interaction of individual brain events.
- We experience the chord an instant AFTER all notes are present, so consciousness is known to lag the brain events that evoke it. (ie: when you lift a finger at will, your brain waves jump about 0.3 seconds ahead of your conscious perception of the decision).



# ARE YOU CONSCIOUS NOW?



One curious feature of consciousness is that, at some point, the person is actually observing him or herself. For example, do you know that at this very moment you are conscious? ☺

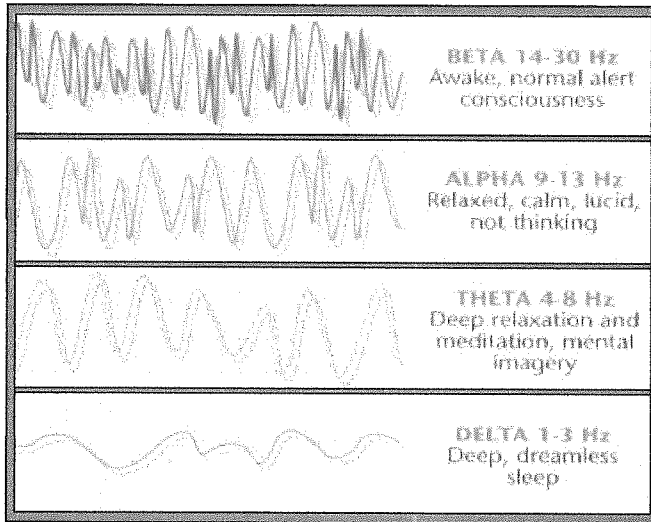
Consciousness refers to different levels of awareness of one's thoughts and feelings. It may include creating images in one's mind, following one's thought processes, or having unique emotional experiences, all of which are part of consciousness.

One way to know that you are conscious is that you are aware of your own thoughts and existence. You may think that when awake you are conscious and when asleep you are unconscious, but there is actually a ***Continuum of Consciousness***. This refers to a wide range of experiences, from being acutely awake and alert, to being totally unaware and unresponsive. Some of the experiences that make up this continuum of consciousness include:

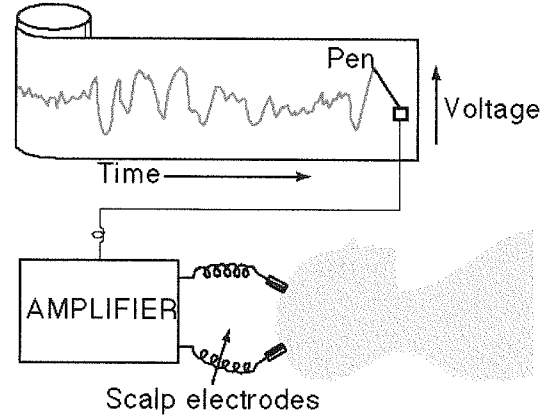
- **Controlled Processes** (activities that require full attention)
  - Serving a tennis ball or taking an exam
- **Automatic Processes** (activities that require little awareness)
  - Eating and watching TV at the same time
  - Driving a car in a familiar area and daydreaming of other things
- **Day-Dreaming** an activity that requires a low level of awareness, often occurs during automatic processes, and involves fantasizing or dreaming while awake.
- **Altered States** result from using a number of procedures including medication, drugs, meditation, psychoactive drugs, hypnosis, or sleep deprivation. All produce an awareness that differs from normal consciousness.
- **Sleep and Dreams**- sleep consists of 5 stages of awareness while dreaming is a unique state of consciousness in which we are asleep but experience a variety of astonishing visual, auditory and tactile images often connected in strange ways and colours.
- **The Unconscious**- Freud's revolutionary idea that there is a 'sub' or 'un' conscious that we can become aware of through a process of free association or dream interpretation. The Cognitive Unconscious consists of mental and emotional processes that we are unaware of but that bias and influence our conscious thoughts, feelings and behaviours.
- **Unconsciousness**- which can result from disease, trauma, a blow to the head, or general medical anesthesia, results in total unawareness and loss of responsiveness to one's environment. (ie: people in a coma –also called a 'vegetative state')

## HOW CAN YOU TELL THE DIFFERENT STATES OF CONSCIOUSNESS?

Different states of consciousness are associated with different patterns of **brain waves**. Brain waves are tracings of electrical activity that is going on in the brain. Scientists record brain waves using an electroencephalograph (EEG), which monitors electrical activity through electrodes placed on the scalp. There are four main types of brain waves: alpha, beta, theta, and delta.



Electroencephalography Recording System



### SLEEP AND DREAMS:

Please read p.175-184 and answer the following questions for next class:

1. Define consciousness-
2. What is a circadian rhythm? Give two examples.
3. How do our biological rhythms influence our daily functioning? Explain.

4. Explain our sleep cycle and include a diagram. Identify all stages of sleep in the cycle.

5. Explain what hallucinations are and why we often have this while falling asleep?

6. What is REM Sleep and NREM sleep? Explain.

7. What are FOUR effects of sleep loss?