

Sleep and Dreams

- What is sleep?
- Why is it important?
- How does it affect us?
- What are dreams?



Sleep and Dreams



- Sleep is a state of altered consciousness, punctuated by states of brain activity and inactivity

Sleep and Dreams

- Consciousness: a state of awareness
- Altered states means that people are at different levels of awareness.



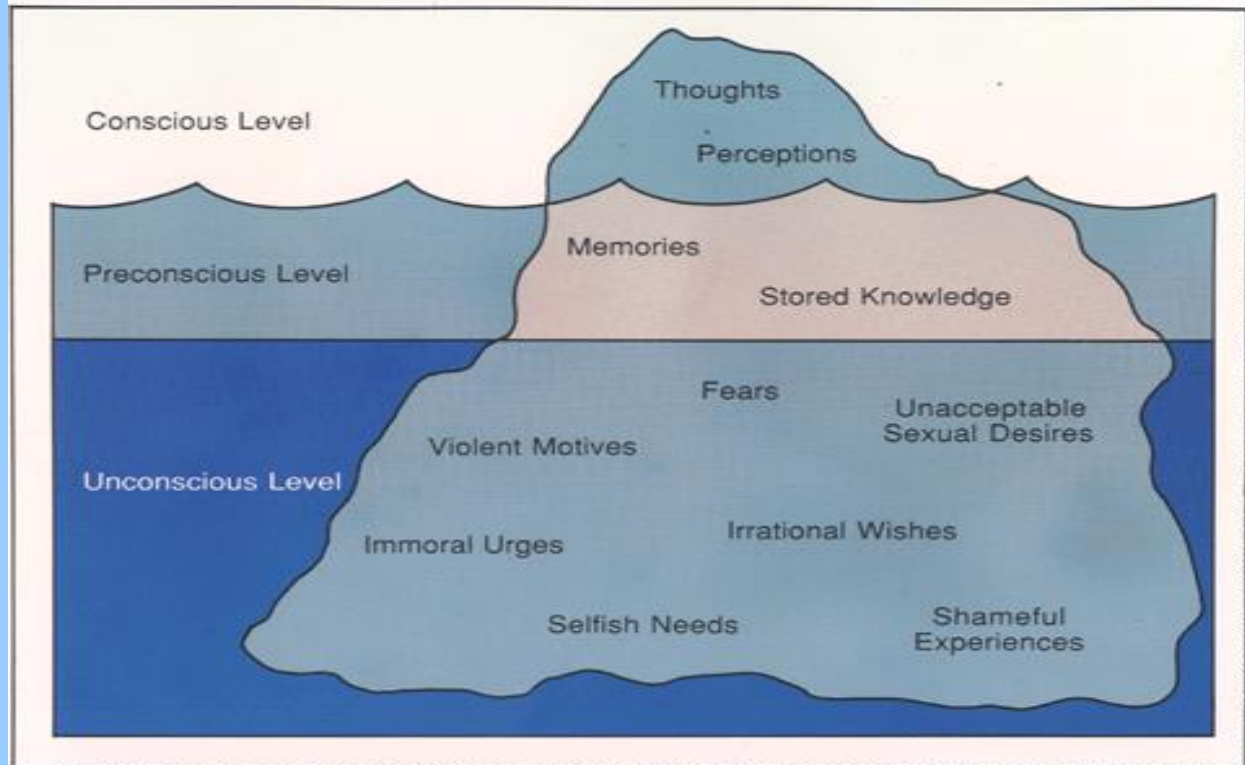
Consciousness



- Varies from alertness to nonalertness
- Sleep is an altered state

Freud's Levels of Consciousness

PERS 5 Freud's View of the Human Mind: The Mental Iceberg



Why do we sleep?

- Has been difficult to study in the past
- Studied with EEG – records brain activity



Why do we sleep?



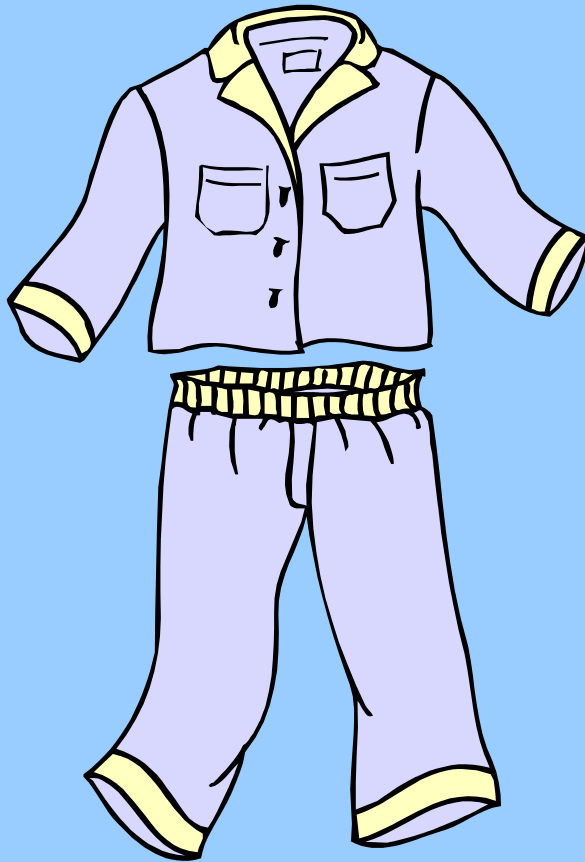
- Many suggestions
 - Restorative
 - Primitive hibernation
 - Adaptive process
 - Clear brain
 - Dream

Stages of sleep

- Five stages of sleep
- At the start:
 - Temp. drops
 - Pulse drops
 - Breathing slows
 - Eyes close
 - Body twitches
 - Visuals flash



Stage one



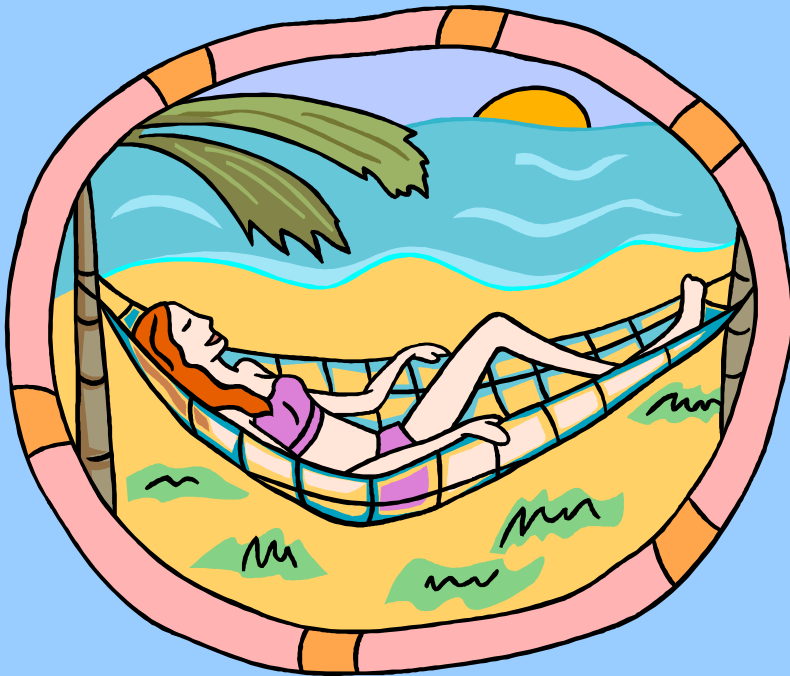
- If awakened:
“just drifting”
- 10 minutes
- Alpha and theta waves present in brain

Stage two

- Brain waves shift from low-amplitude, high frequency to high amplitude, low frequency
- Eyes roll from side to side
- 30 minutes



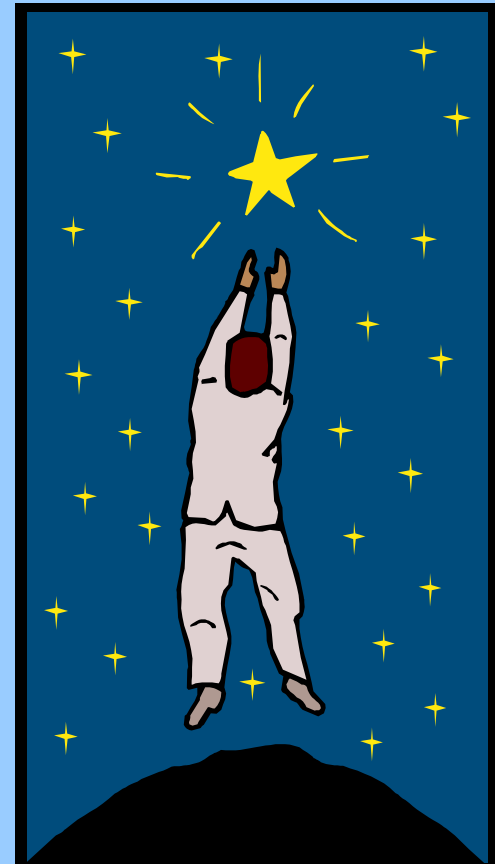
Stage three



- Large amplitude delta waves begin
- Occur approx. every second

Stage four

- Deepest stage
- Difficult to wake
- Large delta waves
- Memory faulty
- Important physically and psychologically



Stages 1-4



- 75 % of time spent in 1-4
- People who cannot sleep for very long will move rapidly to stage 4

Stage five - REM

- Muscles are most relaxed, eyes move rapidly (rem)
- Pulse, breathing rise
- Adrenal and sex hormones rise



Stage five - REM



- Brain waves similar to being awake
- Dreaming takes place
- Lasts 15-45 min
- Approx. Every 90min
- Build memory and learning

100% Sleep Cycle

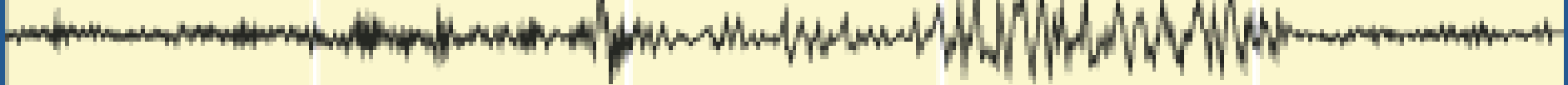
Stage 1

Stage 2

Stage 3

Stage 4

Stage 5



4-5%

45-55%

4-6%

12-15%

20-25%

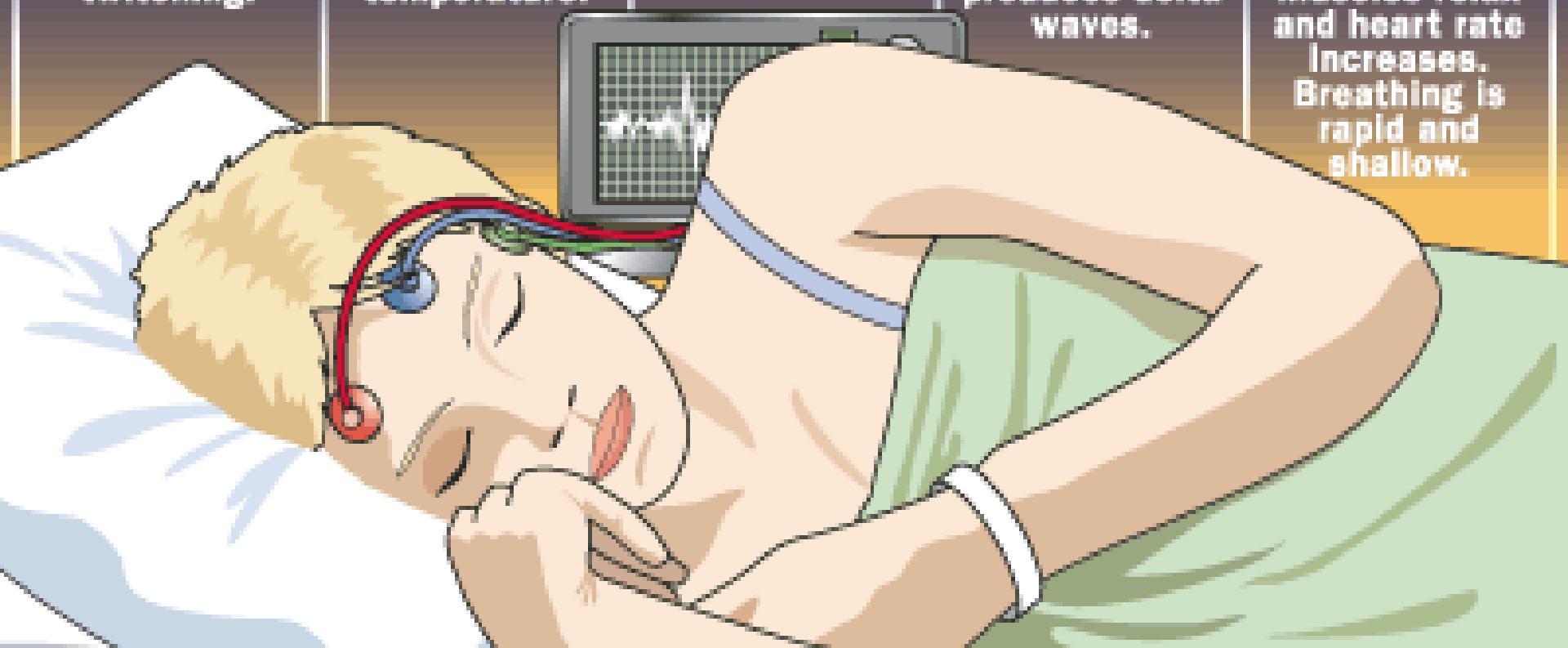
Light sleep. Muscle activity slows down. Occasional muscle twitching.

Breathing pattern and heart rate slows. Slight decrease in body temperature.

Deep sleep begins. Brain begins to generate slow delta waves.

Very deep sleep. Rhythmic breathing. Limited muscle activity. Brain produces delta waves.

Rapid eye movement. Brainwaves speed up and dreaming occurs. Muscles relax and heart rate increases. Breathing is rapid and shallow.



How much sleep?

- Approx. 1/3 life
- Varies by age
 - Infants -16 hrs
 - Teens-10-11hrs
 - Seniors-5hrs
- Internal biological clock





Infancy

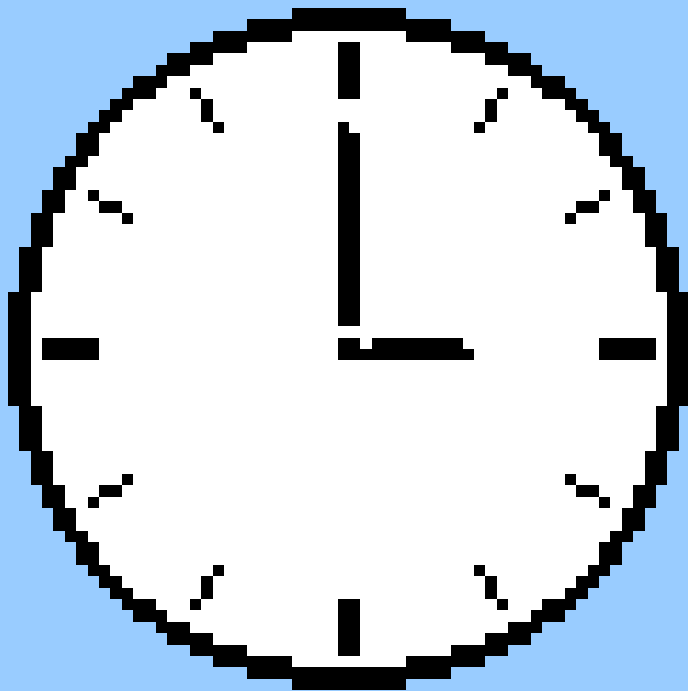


Maturity



Old Age

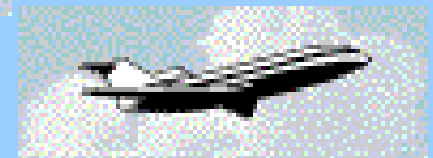
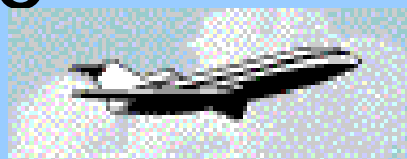
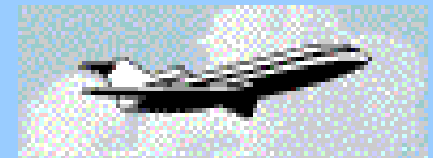
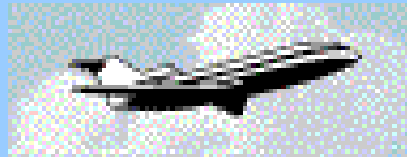
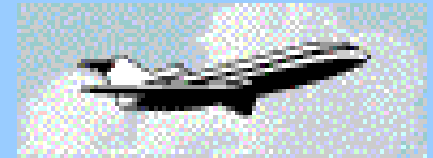
Circadian Rhythm



- Biological clock that regulates body physiological responses over 24 hr period
- Even when day/night cues are removed

Circadian rhythm

- Do not control sleep cycles
- Jet lag- c.r. doesn't match clock
- 1 day/each hr to recover



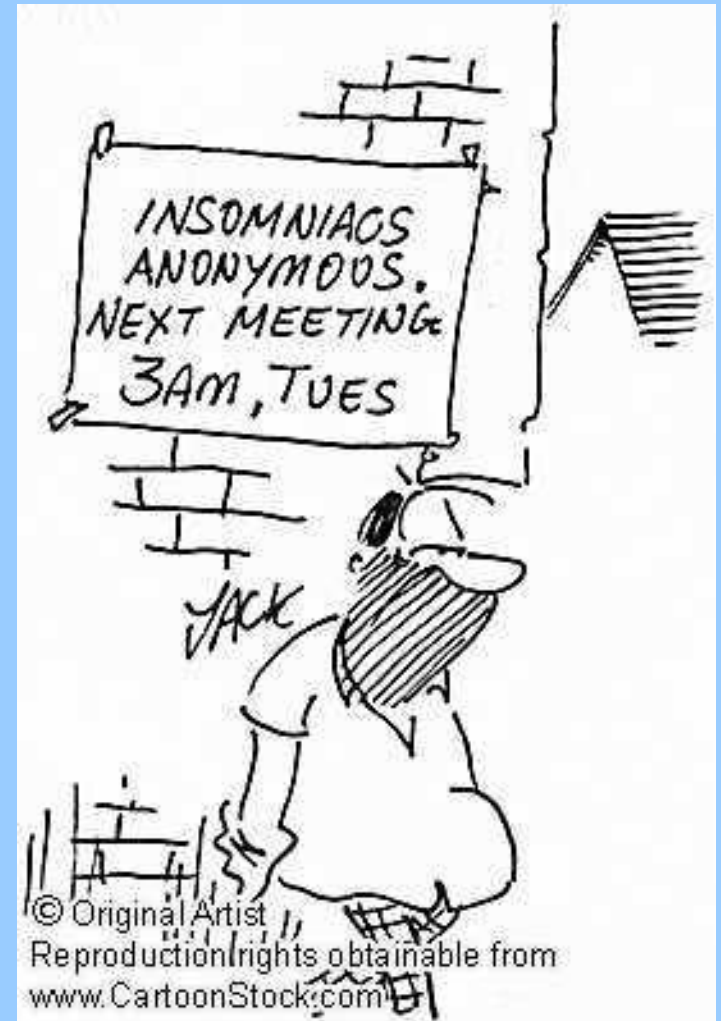
Sleep disorders



- Either with falling asleep, staying asleep, or staying awake

Sleep disorders

- Insomnia – failure to get enough sleep
 - Causes: anxiety, depression, drugs, alcohol



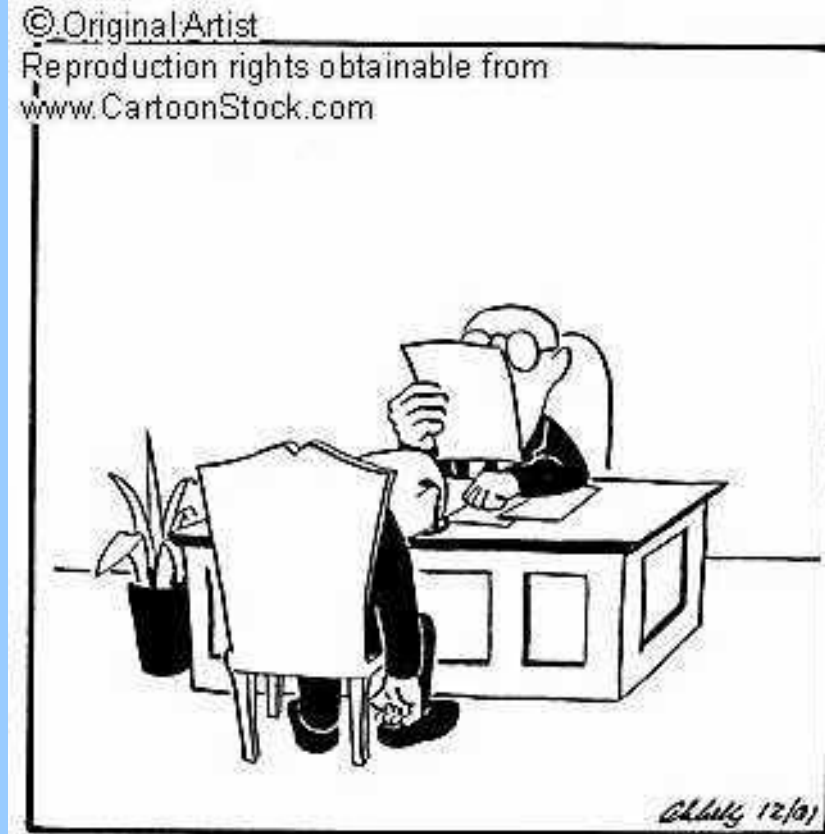
Sleep disorders



- Sleep Apnea – interruption of breathing during sleep – actually choking
- Causes: snoring mostly

Sleep Disorders

- Narcolepsy – sudden falling asleep
- Prone to problems in work, leisure, relationships, and causes accidents



"On your application it says you have narcolepsy. What is that?"

Sleep Disorders



- Nightmares / Terrors
- Nightmares- unpleasant dreams stage 5
- Terrors- stage 4 screaming, sweating, confusion

Sleep Disorders

- Sleep walking- carrying out behaviors while asleep
- Causes- stress, fatigue, medical
- Children, inherited
- Not dangerous to wake



Sleep Disorders



- Sleep talking- occurs during all phases
- Words, sentences, conversations
- Engage in conv.
- Not dangerous

Dreams

- Mental activity that takes place during sleep
- Everyone dreams, some remember more than others-cultures



Dreams



- Vague thoughts to vivid dramas in REM
- Seems necessary
- Most commonplace, dull

Dream interpretation

- Freud/ Inuit: dreams have meanings
- No function
- Review day
- Crick: housekeeping



Day dreaming



- Low level of awareness; fantasizing, directed thinking
- Boredom
- Improve creativity
- Control emotions

Hypnosis, Biofeedback, and Meditation

- Hypnosis is a state of consciousness resulting from a narrow focus of attention and heightened suggestibility



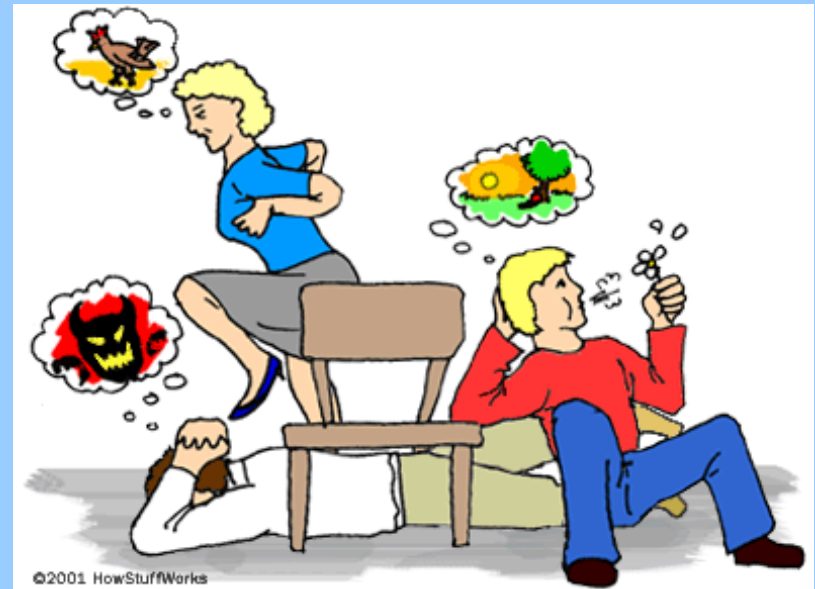
Hypnosis



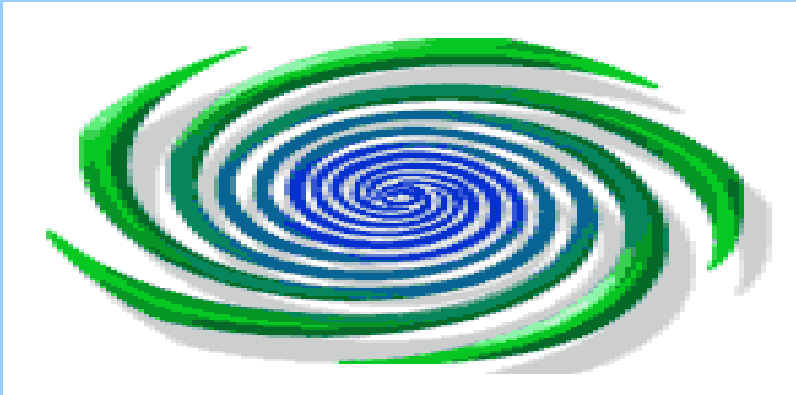
- Hypnotist guides and directs
- Lose interest in external distractions
- Not under control
- Demands trust

Theories of hypnosis

- Several arguments
 - Suggestibility
 - Neodissociation
 - Acceptable role



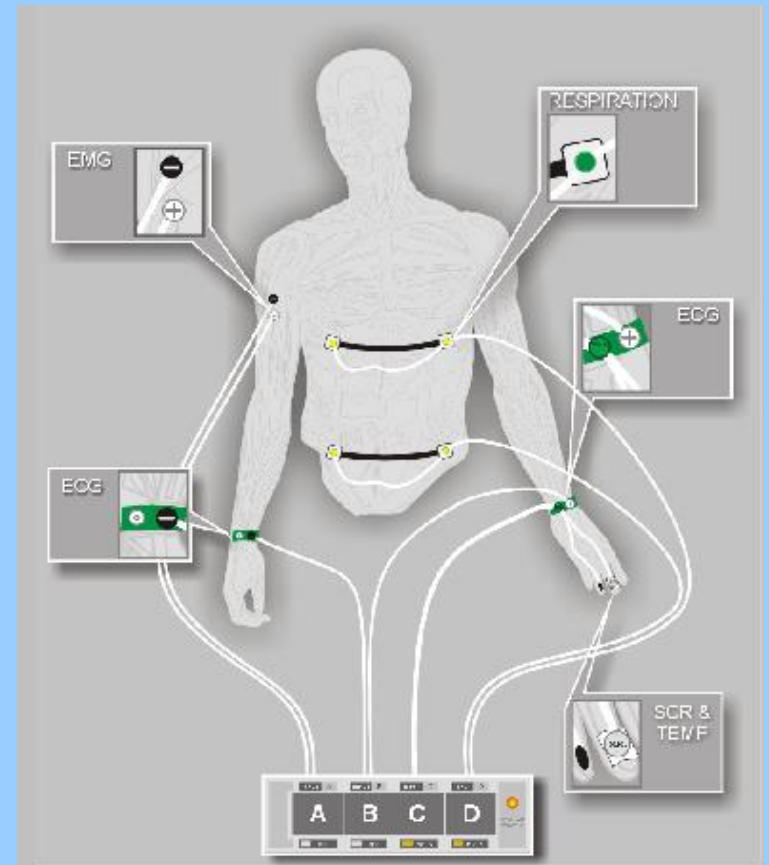
Uses of hypnosis



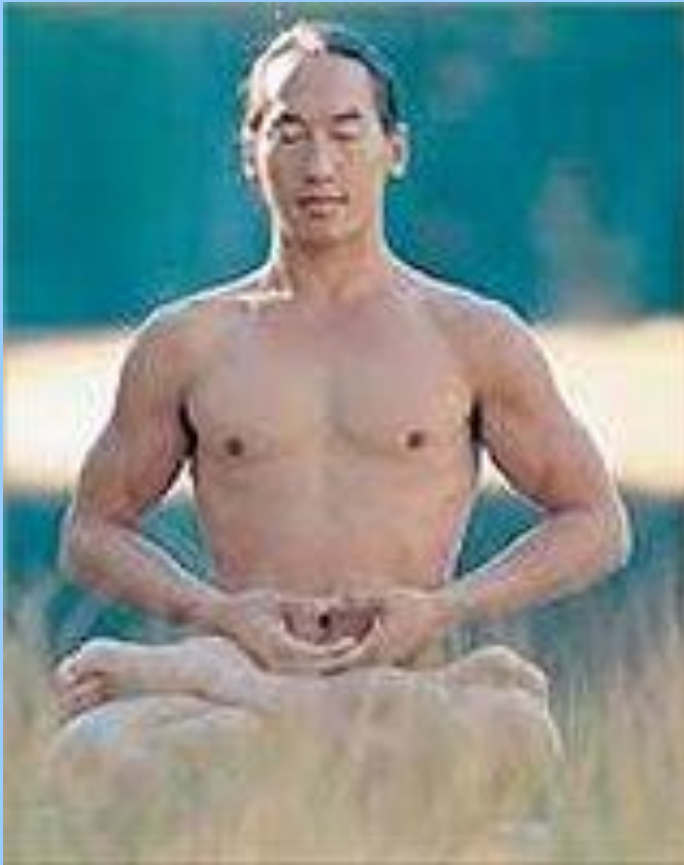
- Entertainment
- Posthypnotic suggestion
- Hypnotic analgesia
- Therapy

Biofeedback

- Controlling internal body functions with the help of machines
- Pain, heart rate, BP, temp, sweat



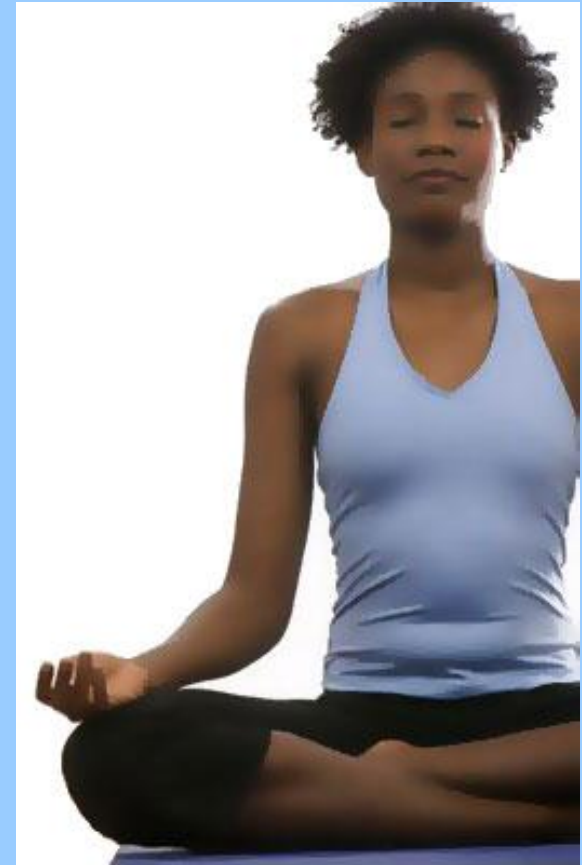
Meditation



- Clearing your mind to produce relaxation
- 1000's of years

Meditation

- Three approaches
 - Transcendental - repetition of a mantra
 - Mindfulness- focus through body
 - Breath- concentration on respiration



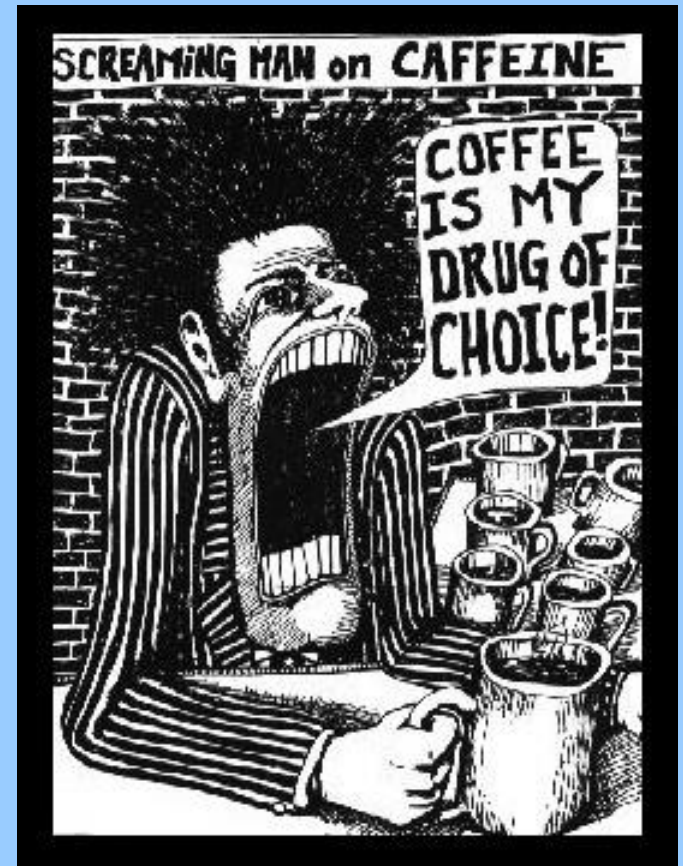
Drugs and Consciousness



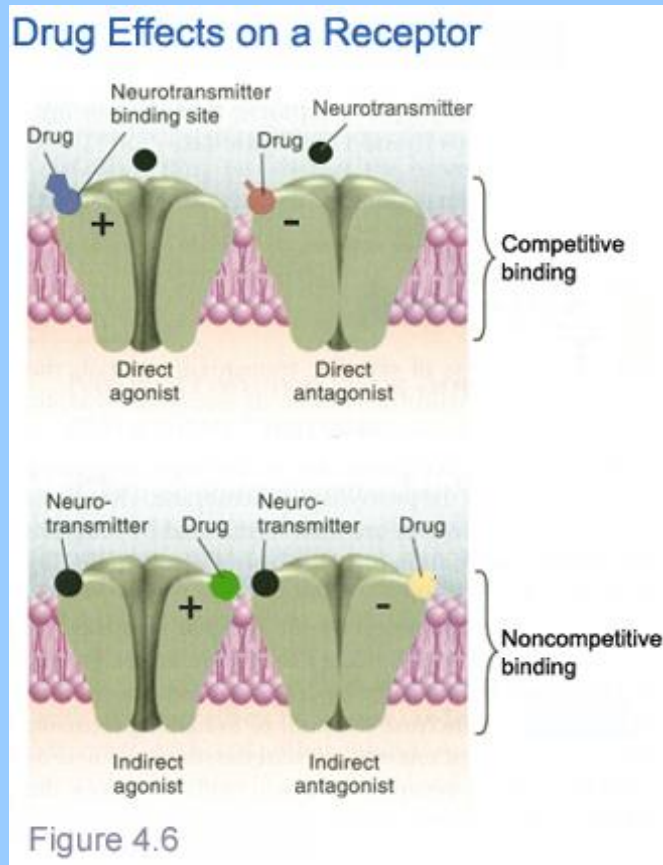
- Psychoactive drugs: chemicals that affect the nervous system and result in altered consciousness

Psychoactive Drugs

- Include:
 - Caffeine
 - Alcohol
 - Marijuana
 - LSD
 - Other hallucinogens



How drugs work

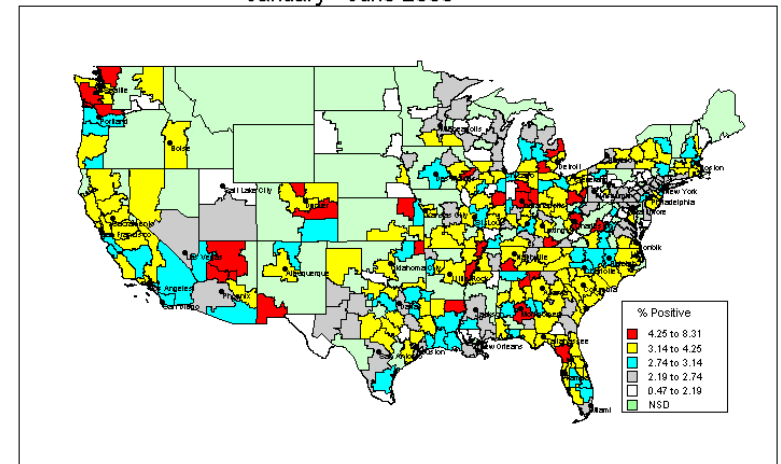


- Carried by blood
- Taken up in target tissues
- Act like neurotransmitters and send out chemical messages

Marijuana

- THC – active ingredient
- Effects vary - & +
- Psychologically addictive
- More damaging than cigarettes
- Scores and Memory

Marijuana Positivity by 3-Digit Zipcode
January - June 2000



Hallucinations

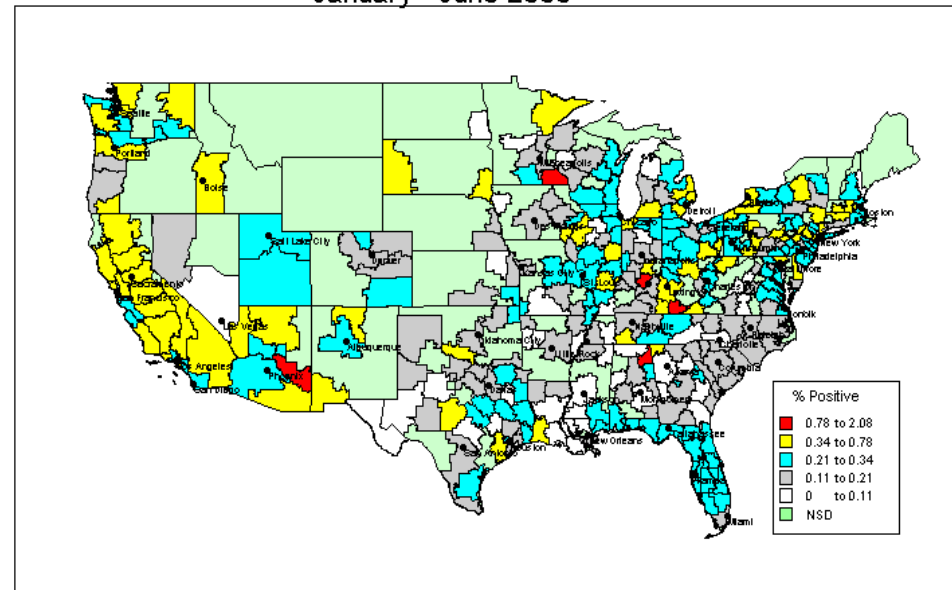


- Perceptions with no external cause
- Tired, drugs, sick, daydreams
- Brain disorganized, while CNS is aroused.

Opiates

- Called narcotics
 - Opium
 - Morphine
 - Heroin
- Pain reduction
euphoria, and
constipation.
- Physical addiction
- Overdose-
respiratory failure

Opiate Positivity by 3-Digit Zipcode
January - June 2000



Alcohol



- Most wide use
- Depressant
- Can lead to permanent brain and liver damage

Drug Abuse and Treatment

- Why abuse drugs?
- Loss of control
- Addictions
- Treatment:
 - Admittance
 - Program
 - Recovery & Future

