ALTERED STATES OF CONSCIOUSNESS  CHAPTER 7

Consciousness (def)…all sensations, perceptions, memories and feelings you are aware of at any time. TO BE AWARE.

We spend most our lives in WAKING CONSCIOUSNESS (a normal state of clear, organized alertness.)

Altered State of Consciousness (def)…when distinct changes occur in the quality and pattern of mental activity.

Typically there are differences in how we perceive things, our emotions, memory, sense of time, thinking, our feeling of self control and suggestibility.

What causes an ASC?....Any factor that changes our awareness can cause an ASC. (Ex. ......fatigue, delirium, sensory overload, dehydration, sleep loss, are just a few.) The list of causes is almost endless.

All cultures and religions seek some types of ASC. They are usually considered a pathway to God or enlightenment. Examples include fasting, meditation, prayer, isolation, sleep loss, self inflicted pain and the use of hallucinogenic drugs.

Our focus will be on the ASC of: Sleep, Dreaming, Hypnosis, Stimulus deprivation and the effects of Drugs.

I) SLEEP
Sleep is the most obvious ASC.

The vast majority of us will spend about 25 years in this strange state of semi-consciousness.

Most scientist regard sleep as an innate biological rhythm (a natural bodily cycle.) While this rhythm does offer some flexibility, it can never be totally avoided. The body NEEDS sleep and will eventually get it.

Experiments will animals (placed on treadmills over a pool of water. They didn’t find it easy to sleep but eventually sleep did happen. The animals experienced repeated MICROSLSEP (a brief shift of brain activity to patterns normally recorded during sleep.) This also occurs in humans and occurs even when your eyes are wide open.

SLEEP DEPRIVATION…The world record for going without sleep is 11 days.

What happens when we lose sleep? Loss of sleep for 2 to 3 days isn’t to bad, you will simply lose your ability to focus, pay attention and do simple routines. Greater
sleep loss may cause a temporary PSYCHOSIS. Confusion, disorientation, delusions and hallucinations are typical. Hallucinations may be visual or tactile. The good news is this doesn’t happen until after 60 hours of continued wakefulness.

It is also not usually necessary to completely replace lost sleep time. Most symptoms of sleep loss are reversed by a single nights rest.

SLEEP PATTERNS….The majority of humans sleep 7 to 8 hours per night. But it would not be unusual to get as little as 5 hours or as much as 11 hours. We all have different needs and sleeping 8 hours a night is not a set rule.

STAGES of SLEEP

The changes that come with sleep can be measured with an EEG machine.

When you are awake and alert the brain emits small, fast waves called BETA waves.

Immediately before sleeping this pattern changes and the brain emits larger and slower waves called ALPHA waves. (these are also present when your totally relaxed and your mind is drifting.)

As your eyes close to sleep your breathing becomes slow and regular, the pulse rate drops and your body temperature drops. Soon after this occurs 4 distinct stages of sleep occur.

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EEG=Brain Waves
EOG=Eye Movement
EMG=Muscle Tone

STAGE 1

As you lose consciousness you enter into a light sleep. Your hear rate slows down even more. Breathing becomes irregular and your muscles relax.

The relaxation of the muscles sometimes causes a reflex muscle contraction throughout the body called a HYPNIC JERK.
If awakened at this time you might say that you weren’t asleep.

Brian waves in STAGE 1 are small, irregular waves.

**STAGE 2**

As sleep deepens your body temperature drops more.

The EEG will show short burst of very distinct brain wave activity called SLEEP SPINDLES. (These Spindles mark the true boundary of sleep.)

**STAGE 3**

In Stage 3 a new brain wave, DELTA waves begin to appear. These waves are very large and slow. These waves signal a deeper sleep.

**STAGE 4**

This is the deepest level of sleep and is reached after about an hour.

Brian waves are almost pure DELTA waves and the sleeper is oblivious. If you wake someone from Stage 4 they will be very confused.

In a normal night's sleep, a sleeper begins in stage 1, moves down through the stages, to stage 4, then back up through the stages, with the exception that stage 1 is replaced by REM, then the sleeper goes back down through the stages again. One cycle, from stage 1 to REM takes approximately ninety minutes. This cycle is repeated throughout the night, with the length of REM periods increasing, and the length of delta sleep decreasing, until during the last few cycles there is no delta sleep at all. The first REM period is usually short (5-10 min), but tends to lengthen in successive cycles.

**STATES of SLEEP**

There are 2 basic states of sleep: 1)REM…(a.k.a.) active sleep and……………………………….. 2)NREM stages 2, 3 and 4 (a.k.a. quiet sleep)

REM stands for rapid eye movement and is associated with dreaming. When dreaming our brain waves resemble those of Stage 1. When dreaming our breathing is irregular and you can actually see the eyes moving under the lids.

During REM your muscles are almost paralyzed. While you may twitch, your arms and legs keep still so that we don’t act out our dreams. When this muscle paralysis fails to work it is labeled REM BEHAVIOR DISORDER.
Added daytime stress seems to increase REM sleep dramatically. On the average evening we spend 90 minutes to 2 hours in REM sleep.

NREM sleep is dream free about 90% of the time. These are more just thoughts and vague images. Dreams during REM are longer, more detailed and more bizarre.

NREM seems to help the body recover from a long day and it will increase in time with exercise.

SLEEP DISTURBANCES

1) Sleepwalking …..people look awake, with eyes open, but their lack of recognition and slow shuffle tell us that they don’t have a clue. This may be hereditary. Waking a sleepwalker up won’t hurt but easier to just guide them back to bed.

If might seem that sleepwalkers are acting out a dream but we know that they are paralyzed in REM sleep. EEG results show sleepwalking to occur in stages 3 and 4.

2) Sleeptalking….also occurs during NREM in stages 3 and 4. Talkers make very little sense and remember very little when awakened.

3) Nightmares….simply a bad dream that takes place in REM sleep. They are usually brief, easily remembered and occur about twice a month on average.

4) Night Terrors…..Occur during stage 4. In a Night Terror the person suffers total panic and may hallucinate frightening dream images into the bedroom. An attack may last 15 to 20 minutes and is unbelievably frightening. When awakened the person is covered in sweat but may remember only fragments of the terror. Victims may sit up, scream, get out of bed or run around the room. Fortunately they occur mostly in childhood but do plague some adults.

5) Narcolepsy….These are sudden, irresistible sleep attacks and can last from a few minutes to a half hour. Victims may fall asleep while standing, talking or even driving. Emotional excitement, especially laughter, triggers Narcolepsy.

Narcoleptics tend to fall directly in REM sleep. Thus the sleep attacks and paralysis seem to occur when REM intrudes into our waking state.

Narcolepsy is rare but tends to run in families (thus it is hereditary). There is no known cure stimulant drugs and long naps seem to help.

Half of all Narcoleptics also suffer from Cataplexy (a sudden temporary paralysis of the muscles) that can lead to complete body collapse.
6) Insomnia…..This includes having difficulty falling asleep and waking up frequently or to early. About 30% of all adults report some degree of Insomnia, and 10% say it’s a serious problem. A quick and first attempt to cure Insomnia is to consume less caffeine, alcohol and tobacco.

Over ½ billion dollars will be spent on sleeping pills this year. These pills simply don’t work well and if they do they cut down on time in Stage 4 and REM. Many people build up tolerances to these drugs and must use more and more.

Most Insomnia is caused by worry, stress and excitement. This is usually only temporary.

Insomnia that lasts more than 3 weeks is classified as Chronic Insomnia.

7) Sleep Apnea…..The word Apnea means “interrupted breathing”. In reality a person may stop breathing from 20 seconds to 2 minutes. As the need for oxygen grows they wake a little to gulp air then goes back to sleep. This can occur 100’s of times a night and leads to Hypersomnia (excessive daytime sleepiness.)

You can tell by listening who these people are. They snore loudy, with short silences and loud gasps or snorts.

A FEW OTHER ODDITIES….Nightmare disorder(vivid, recurring nightmares that disturb sleep.)……Periodic limb movement disorder (Muscle twitches that effect primarily the legs and occur every 20 to 40 seconds…..Restless Leg Syndrome (a need to move the legs to relieve a feeling of creeping, tingling, aching or tension.)

II) DREAMS
Most people dream 4 to 5 times a night but most don’t remember their dreams.

Dreams are spaced about 90 minutes apart.

The 1st dream only last about 10 minutes(vague and boring) and the last 30 minutes or more( the most exciting dream of the evening.)

There is an essential need to DREAM. Experiment done where people where woke up whenever they entered REM sleep. After several nights they increased their quality of dreams and had to be woke up 20 to 30 times to prevent REM sleep. When they were finally allowed to sleep undisturbed they increased their REM sleep time.(REM REBOUND).

When not allowed to dream these people became anxious, had poorer memories and couldn’t concentrate.

So what is the purpose of REM ?….
1) CHILDREN…..Dreaming may stimulate the developing brain of a child. Newborns spend about 50% of their sleep time in REM (8 to 9 hours of dream time per day).

2) ADULTS….Dreams may prevent sensory deprivation during sleep and aid the processing of emotional events. REM also helps the brain sort and store memories from that day.

What do Dreams mean?....
Calvin Hall, noted authority, analyzed over 10,000 dreams. He found that:
1) Most dreams reflect everyday events
2) The favorite setting is a familiar room in a house.
3) Action is usually between the dreamer and 2 to 3 other significant people.
4) Dream action if familiar (running, jumping, sitting, talking, etc)
5) About ½ of the recorded dreams had some sexual content.
6) Dreams of flying, floating and falling occur less frequently.
7) Unpleasant dreams involving anxiety, anger, fear and sadness are more frequent than pleasant emotions.

Dream Theories....

Dream Interpretation can be traced by to 5000 b.c. and the Egyptians.

No one really knows what dreams mean. They may be significant, they may be meaningless.

In 1900 Freud wrote “The Interpretation of Dreams”. He believed that dream messages appeared as SYMBOLS.

III) HYPNOSIS

Hypnosis (def.)….an ASC of narrowed attention and increased openness to suggestion.

Hypnosis is not magical and it is not sleep (beta waves mean wide awake)

Interest first came about in 1700

About 80% of all people can be hypnotized. The best subjects are people who are intelligent. If you are willing to be hypnotized there is a good chance it would work for you.

Hypnosis depends more on the efforts and abilities of the person being hypnotized than the person doing it.

INDUCING HYPNOSIS….many different ways to do this but all do the following:
1) focus attention on what is being said
2) to relax and feel tired
3) to “let go” and accept suggestions
4) to use vivid imagination

Even when hypnotized people will not violate their normal morals and values

WHAT DOES IT FEEL LIKE?
Though you might be surprised at some of your actions during hypnosis people generally remain in control of their behavior and aware of what is going on.

Hypnosis may also cause a “split” in awareness. (Ice water and told to feel no pain)....when asked if any part of their mind felt the pain they used their free hand to write “it hurts” or “stop it, your hurting me”, even while they continue to act pain free. The HIDDEN OBSERVER is a detached part of the persons awareness that silently observes events.

IV) SENSORY DEPRIVATION

SD has been used throughout history as a means of altering consciousness.

SD (def) any major reduction in external stimulation

Experiment done where subjects laying in small cubicles. Wore dark goggles, gloves and cuffs restricted movement, hissing sound only. None could take it more than 2 days without pressing panic button.....couldn’t judge time, trouble concentrating, sensory distortions, slower reactions.

Most people find prolonged SD stressful and uncomfortable. Yet brief bits of SD are relaxing for most people. An hour or two in a flotation tank causes drop in blood pressure, muscle tension and overall stress.

Another after effect of SD is increased sensory acuity. Peoples senses are temporarily more sensitive.

V) DRUG ALTERED CONSCIOUSNESS

The surest way to alter our consciousness is to administer a psychoactive drug (any substance that alters attention, judgement, memory, time, self control, emotions and perceptions.)

Most psychoactive drugs can be classified as a STIMULANT or a DEPRESSANT. A Stimulant increases activity in the body and nervous system. A Depressant decreases activity in the body and nervous system.

Drug dependence falls into 2 categories:
1) PHYSICAL DEPENDENCE…when a person compulsively uses drugs to maintain body comfort a Physical addiction exists.

Physical dependence occurs most often with drugs that cause withdrawal symptoms (a physical illness).

Withdrawal from alcohol, barbiturates and opiates can be very unpleasant.

Addiction often brings about drug tolerance and the need to take more and more drugs.

Drugs typically associated with Physical dependence include: alcohol, amphetamines, barbiturates, cocaine, codeine, heroin, methadone, morphine and nicotine.

2) PSYCHOLOGICAL DEPENDENCE…when a person feels that a drug is necessary to maintain their well being.

This is usually based on an intense craving for the drug.

Psychological dependence affects drug users as much as Physical dependence.

All drugs can bring about a Psychological dependence.

Some drugs have a higher potential of abuse than others (Heroin vs caffeine.)

We can also classify drug use
1) Experimental…short term use based on curiosity
2) Social-Recreational…occasional social use for pleasure or relaxation
3) Situational…used to cope with a specific problem…the need to stay awake
4) Intensive…daily use that brings about partial dependence
5) Compulsive…intense use and extreme dependence.

The last 3 tend to be damaging no matter what drug is used.

UPPERS (Stimulants)….drugs that stimulate and excite the Central Nervous System

Amphetamines, Cocaine, Caffeine and Nicotine fall into the Uppers category, here is a brief look at each.

AMPHETAMINES….these are synthetic stimulants that quickly lead to dependence and rapidly lead to drug tolerance. They were once widely prescribed for weight loss and to combat mild depression.

Only legitimate use to treat Narcolepsy, childhood hyperactivity and overdoses of depressants.
You might start taking 1 or 2 pills and quickly be taking dozens to get the same feeling. Eventually you may inject METHADRINE (crystal meth) with a needle or smoke it like “crack”.

Abuse and risk of using are very high and dangerous. Nausea, vomiting, high blood pressure, fatal heart arrhythmias, strokes, depression, confusion, irritability and aggression are all possible.

They can also cause Amphetamine Psychosis (loss of reality). Suffer from paranoid delusions.

COCAINE…extracted from the coca plant it stimulates the CNS. The high is euphoric and compulsive abuse becomes the norm.

Until early 1900’s many non prescription potions and liquids contained cocaine. From 1886 to 1906 Coca Cola contained COKE (replaced it with caffeine).

Coke and amphetamines have similar effects on the CNS but amphetamines last for hours and Coke only 15 to 30 minutes.

Abuse issues include convulsions, heart attack and stroke…. (it only takes once….Lenny Bias)

Crack Babies…..Animals die because they can’t stop taking it….very addictive.

CAFFEINE…the most frequently used psychoactive drug used in North America. It stimulates the brain by blocking chemicals that normally slow down nerve activity.

Can bring about Insomnia, irritability, loss of appetite, racing heart and elevated body temp.

Often thought of as a non-drug but does have harmful effects.

NICOTINE…a natural stimulant found mainly in tobacco (2nd most widely used next to caffeine.)

It is very toxic, very addictive and you easily build a tolerance to it.

Quitting can bring about withdrawal symptoms that are worse than heroin withdrawal. 8 of 10 smokers who quit relapse within 1 year.

A definite relationship between nicotine, smoke and cancer.

DOWNERS (Depressants)….drugs that depress the nervous system. These drugs include Barbiturates, Tranquilizers and Alcohol.
Barbiturates….depress brain activity. They are used medically to calm people down or induce sleep.

In mild doses have same effect to being drunk. Higher doses produce psychotic symptoms. Overdosing leads to death.

Tranquilizers….a drug that lowers anxiety and reduces tension. (Known prescription tranquilizers include Valium, Xanax, and Librium.)

At normal doses these drugs can cause shakiness and confusion. At high doses they are very addictive.

“Roofies”(Rohypnol), the date rape drug, also is a tranquilizer. It’s cheap and very potent. It lowers inhibitions and produces qualities similar to intoxication. High doses can cause induce short term amnesia and the user will pass out.

Abuse….physical dependence and addiction are major issues. The biggest risk though is combing barbiturates or tranquilizers with alcohol. When mixed the effects of both drugs are multiplied (drug interaction). Karen Quinlan, coma for 10 years and eventual death.

Alcohol… Alcohol is the worlds favorite depressant, it is not a stimulant. It does loosen our inhibitions and relaxes us.

But what is really happening is that it is slowing down our Central Nervous System. This causes people’s thinking and perceptions to be dulled (alcohol myopia). The brain stops functioning as it normally does. We don’t restrain our behavior, we don’t use common courtesies, it causes people to do things they normally would not do or say.

Women are especially at risk. Alcohol is absorbed faster but metabolized slower in women’s bodies, thus it takes much less to get intoxicated than for men. Women are also more prone to liver disease and depression. There is also an increased risk of breast cancer by 50% with as few as 3 drinks a week.

Treatment for alcoholism is DETOXIFICATION. It produces the same symptoms as drug withdrawal and is very unpleasant.

HALLUCINOGENS….The effect of these drugs is to produce hallucinations.

Many hallucinogens are found in nature and have been used throughout history.

2 hallucinogens that are natural are Mescaline (Peyote) and Mushrooms.

LSD is the best known hallucinogen.
It is one of the most powerful and most potent drugs we know of.

It is produced in laboratories and in even small amounts can cause hallucinations and drastically alter your judgment and perceptions.

It comes in several forms (pills, liquid and blotter)