

# THERAPEUTIC USES FOR CBD

- **Acne**
- ADD/ADHD
- Addiction
- ALS
- Alzheimer's / Dementia
- **Anorexia**
- Anxiety
- Atherosclerosis
- Arthritis
- Asthma
- Cancer
- Digestive Disorders
- Depression
- Diabetes
- Endocrine Disorder
- Epilepsy
- Fibromyalgia
- Glaucoma
- Head Aches/Migraine
- Heart Disease
- Inflammation
- Metabolic Syndrome
- Mood Disorder/OCD
- MS
- Neurodegeneration
- Chronic Pain
- Obesity
- Osteoporosis
- Parkinson's Disease
- PTSD
- Sleep Disorder
- Stress

# THERAPEUTIC USES FOR EXERCISE

- Acne
- ADD/ADHD
- Addiction
- ALS
- Alzheimer's / Dementia
- Anorexia
- Anxiety
- Atherosclerosis
- Arthritis
- Asthma
- Cancer
- Digestive Disorders
- Depression
- Diabetes
- Endocrine Disorder
- Epilepsy
- **Erectile dysfunction**
- Fibromyalgia
- Glaucoma
- Head Aches/Migraine
- Heart Disease
- Inflammation
- **Menstrual Disorder / Menopause-related Symptoms**
- Metabolic Syndrome
- Mood Disorder/OCD
- MS
- Neurodegeneration
- Chronic Pain
- Obesity
- Osteoporosis
- Parkinson's Disease
- **Premature Death**
- PTSD
- Sleep Disorder
- **Skin Health**
- Stress
- Stroke



# LAW ENFORCEMENT INTERVIEW



# HALLUCINOGENS

Chapter 12



# HISTORICAL CONTEXT

# RELIGIOUS USE

- American Indian - shamans



*From Copyrighted Photographs 1880 by G.P. Putnam*  
COSTUME OF A WOMAN SHAMAN - CLAYOQUOT



# SALEM, MASSACHUSETTS

## 1691 Salem Witch trials

- ~ 200 accused
- “Witch crazed”
- Contorted
- Screaming
- Images of birds, dogs, and the Devil



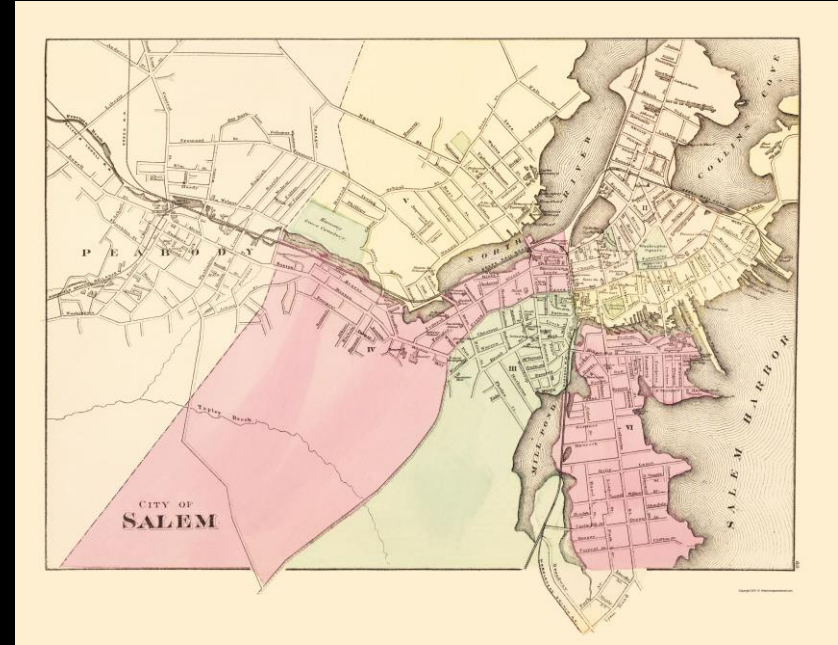






# ERGOT

- Fungi → barley, wheat, rye
- Lysergic Acid
- 1951 – Pont-Saint-Espirit



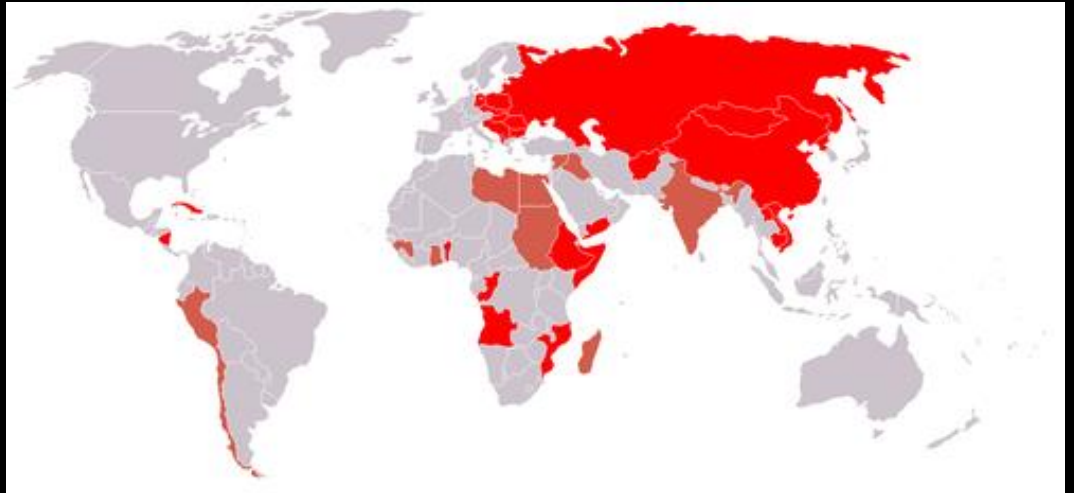
Source: University of Nebraska-Lincoln

# THE COLD WAR

**THE RED MENACE  
IS REAL!**



**REPORT ALL SUSPECTED  
COMMUNIST ACTIVITY!**



# THE RED SCARE





# US GOVERNMENT

- “Brain Warfare”
- CIA – truth serum
- 1953 - MK-ULTRA



25 mg vial of 1951 Sandoz LSD (Delysid)

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ARTICLE APPEARING  
ON PAGE *E-11*

WASHINGTON POST  
28 AUGUST 1982

## JACK ANDERSON

### Lawsuit Forces CIA Confession On MK-ULTRA

Scott, says he suffered permanent brain damage from the tests. A third, John R. Manly, is a fugitive, and the fourth, James T. Knight, is still in prison. All four say they suffered flashbacks and other severe symptoms for years after they were

drugged by the CIA.

Here are some of the shocking admissions made by the Justice Department on behalf of the CIA, under questioning by the victims' attorney:

- MK-ULTRA's purpose was "research and development of chemical, biological and radiological materials [for use] in clandestine operations to control human behavior." The CIA hoped the "psychoactive chemicals" would work on the victim's mind and emotions to "release him from the restraint of self-control."

- The program was also intended to develop an "anti-interrogation" drug to counter Soviet truth serum, or possibly to scramble a CIA agent's brain so that any confession to his captors would be useless.

- MK-ULTRA and its successor program, MK-SEARCH, were terminated in part because the drugs and other techniques proved "too unpredictable in their effect on human beings."

- Nevertheless, the CIA pursued another chemical program, MK-BURN, until at least 1970. One of its researchers was Dr. Carl Pfeiffer, who also worked on MK-ULTRA. Pfeiffer has sworn he was merely

trying to find a cure for mental illness. That is what the Atlanta convicts were told.

- The materials developed and tested were "hallucinogenic or [would] otherwise affect the central nervous system of humans." The substances included various LSDs, mescaline, a truth serum and powerful amphetamines.

- The CIA can produce no written consent forms, and admits no follow-ups were made of the guinea pigs. Normally these weren't even doctors on hand the night after the convicts were drugged. Some prisoners were so hopped up they had to be given more drugs "to attain sleep."

- Two victims were transferred to a medical facility "because of apparent mental problems," but the CIA denies this was because of "an adverse reaction" to its drugs, which were intended to duplicate psychosis.

- Though expense records were kept meticulously—\$349,446.10 for the Atlanta subproject—the overall records were ordered destroyed in 1973 by Dr. Sidney Gottlieb, a top CIA scientist. Pfeiffer destroyed the records in 1972.

- Footnote: The CIA refused comment. Gottlieb told my associate Les Whitten the Atlanta project "was in keeping with the kind of experiments being done at that time." Pfeiffer "doesn't ordinarily take calls," according to a voice at his New Jersey office.

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# MDMA

## Vietnam

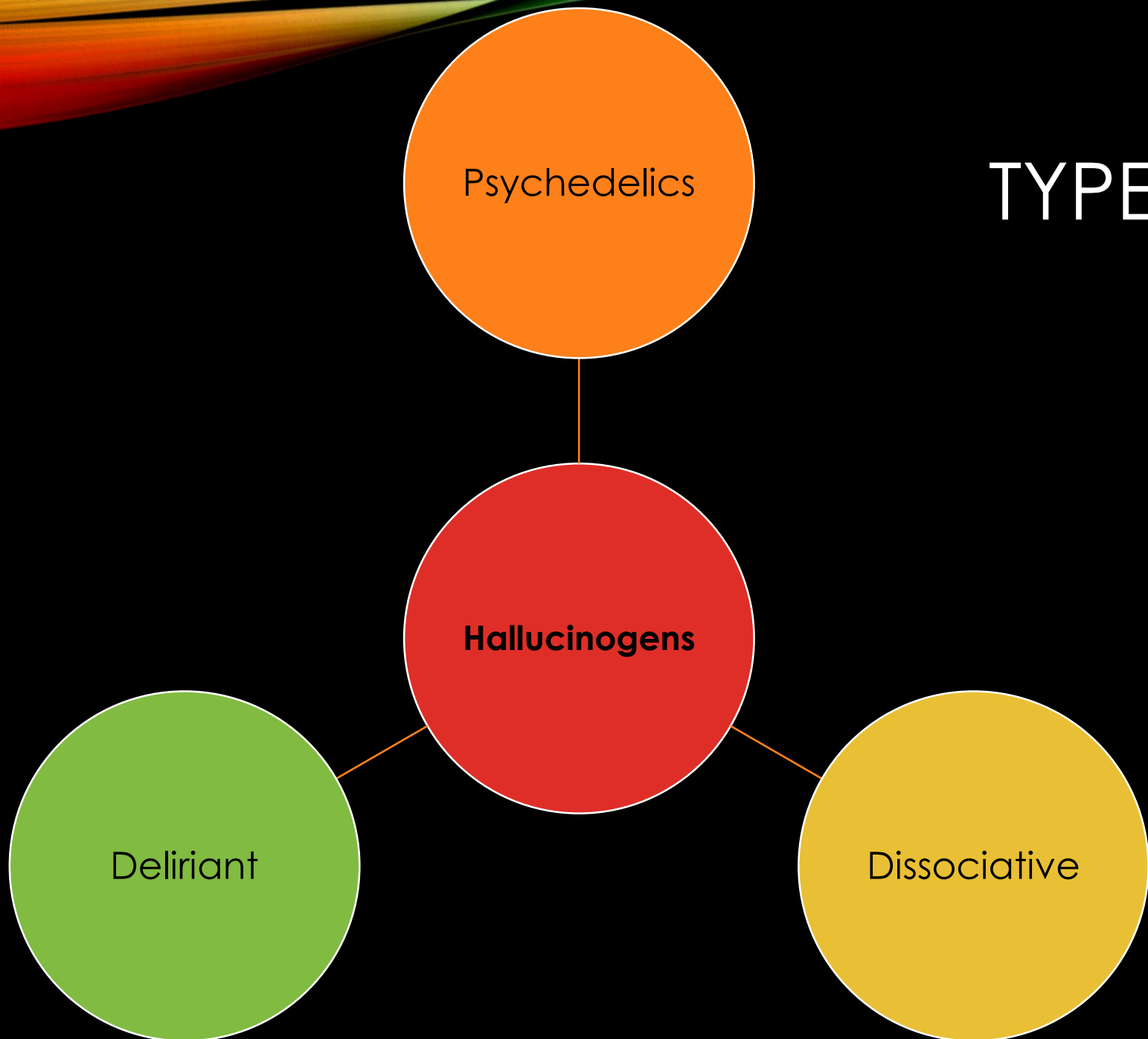
- Amphetamines
- Codeine
- MDA
- Brainwash
- Amnesia
- PTSD
- Interrogation





# TYPES OF HALLUCINOGENS

# TYPES



Psychedelics

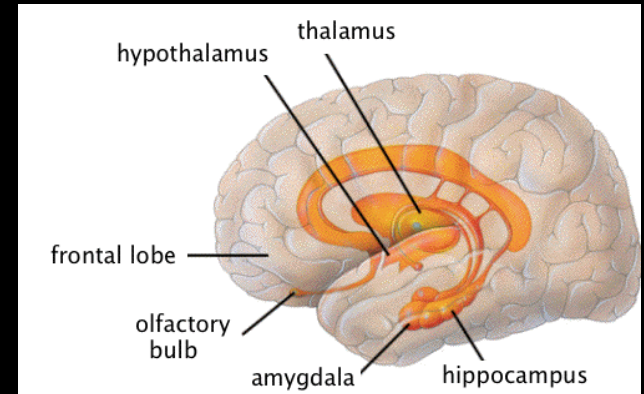
Hallucinogens

Deliriant

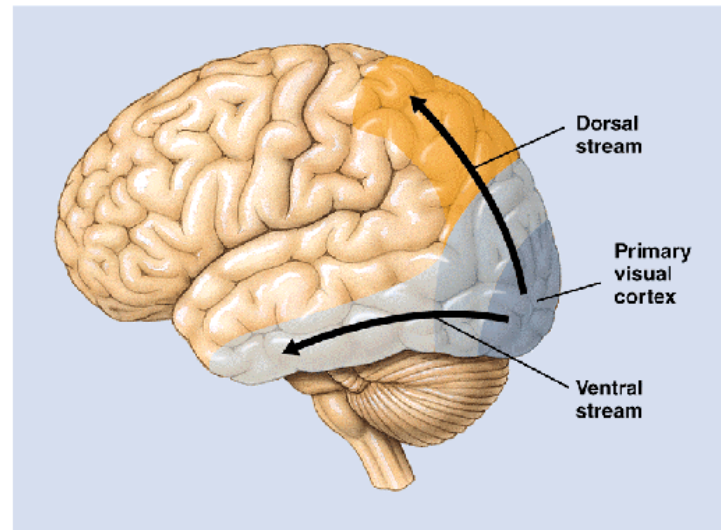
Dissociative

# MNT PHOENIX.

- Describe how hallucinogens alter the senses



## ► Visual Information Pathways





# MAN BLUE DEVILS

Explain how hallucinogens differ from other commonly abused drugs in terms of their addicting properties and their ability to cause dependence





# DRUG SAFETY?

- How do you measure the danger of a drug?
- Most hallucinogenic drugs are not physically toxic and do not generate physical withdrawal symptoms.

# HALLUCINOGENS

- Synesthesia



- Trip
- 10 minutes – 12 hours



# HALLUCINOGENS



FEELING NUMB

- Trip
- 10 minutes – 12 hours

## 1<sup>st</sup> stage = Physiological

- HR,
- BP
- Hyperthermia
- Dilated pupils
- Weakness
- Muscle contractions



# HALLUCINOGENS



- Trip
- 10 minutes – 12 hours
- 1<sup>st</sup> stage = Physiological
- **2<sup>nd</sup> stage = Altered sensations**
- Focused senses
- Objects become significant, strange, or mystical
- Time & space altered
- Warped dimension

# HALLUCINOGENS



- Trip
- 10 minutes – 12 hours
- 1<sup>st</sup> stage = Physiological
- 2<sup>nd</sup> stage = Altered sensations

## 3<sup>rd</sup> stage = Visual illusion

- Detached sense of self
- Distorted figures
- Preoccupation

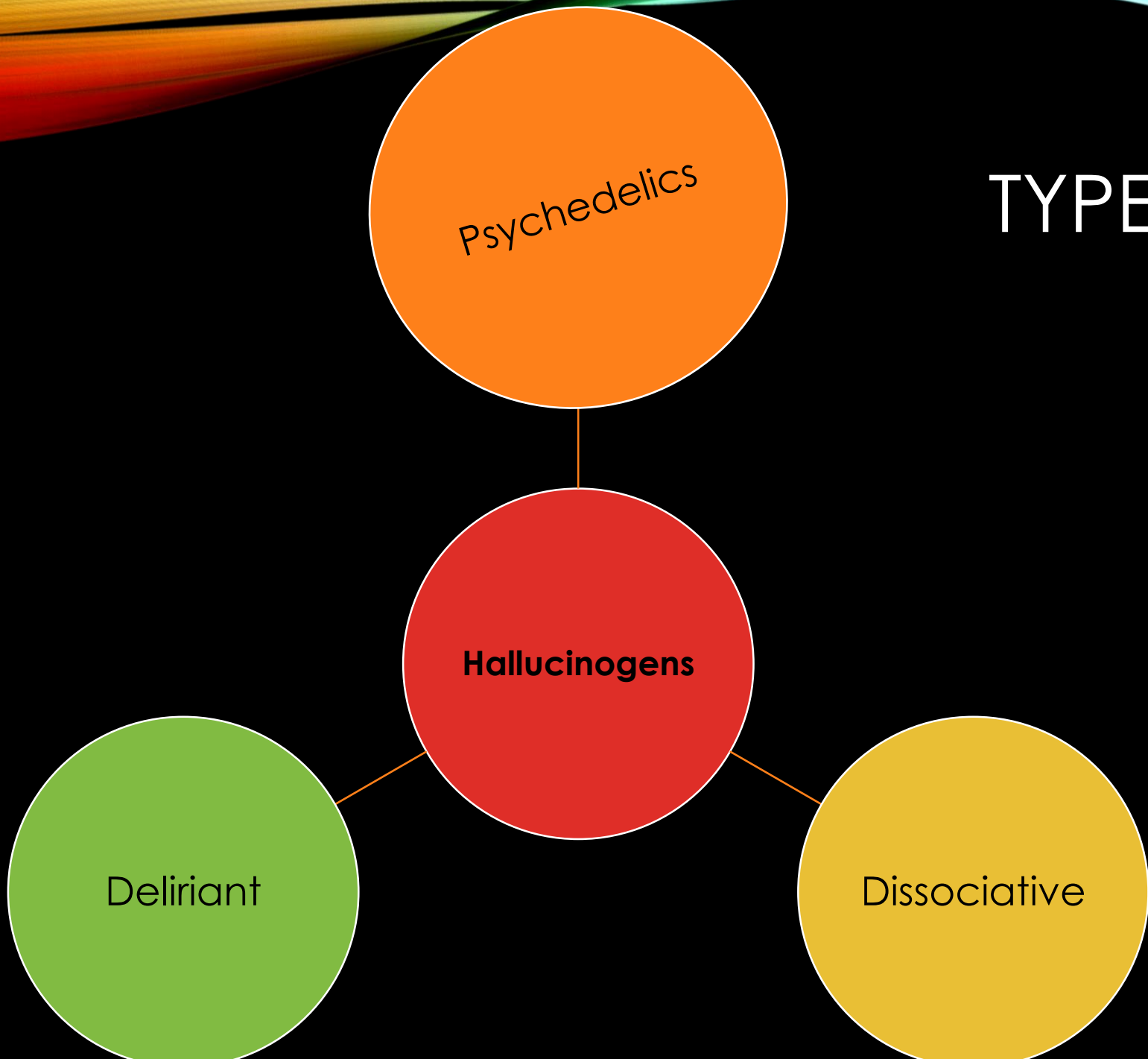
# TYPES

Psychedelics

Hallucinogens

Deliriant

Dissociative



# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- Morning Glory seeds
- Nutmeg
- DMT
- Bufotenine
- Serotonin
- Oxytocin
- Tryptophan
- Cortisol, epinephrine
- MAO & GABA



# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- Morning Glory seeds
- Nutmeg
- DMT
- Bufotenine



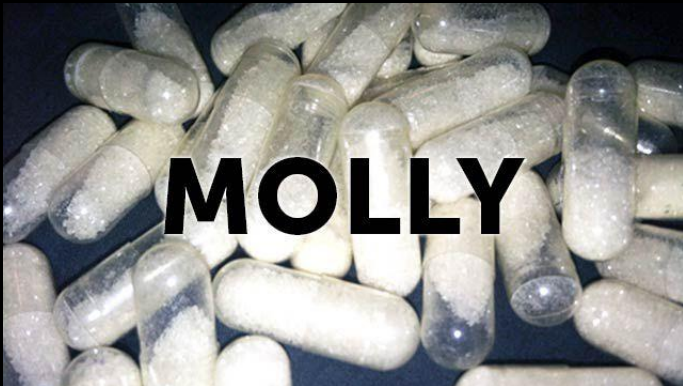
# PSYCHEDELIC

- LSD
- **MDMA**
- Psilocybin
- Peyote
- Morning Glory seeds
- Nutmeg
- DMT
- Bufotenine



# BRN CHARGERS

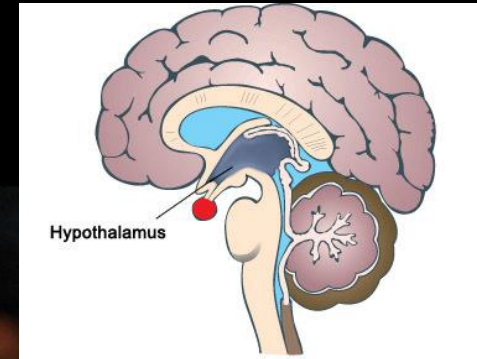
- Explain the reasons for Ecstasy's recent fluctuations in patterns of use.





# MAN PHOENIX

Explain what is meant by the term “club drugs” and describe particular problems associated with their use



Molly?



# BRN BLUEGOLDS.

Describe why some psychotherapists believe that MDMA may be beneficial for their patients



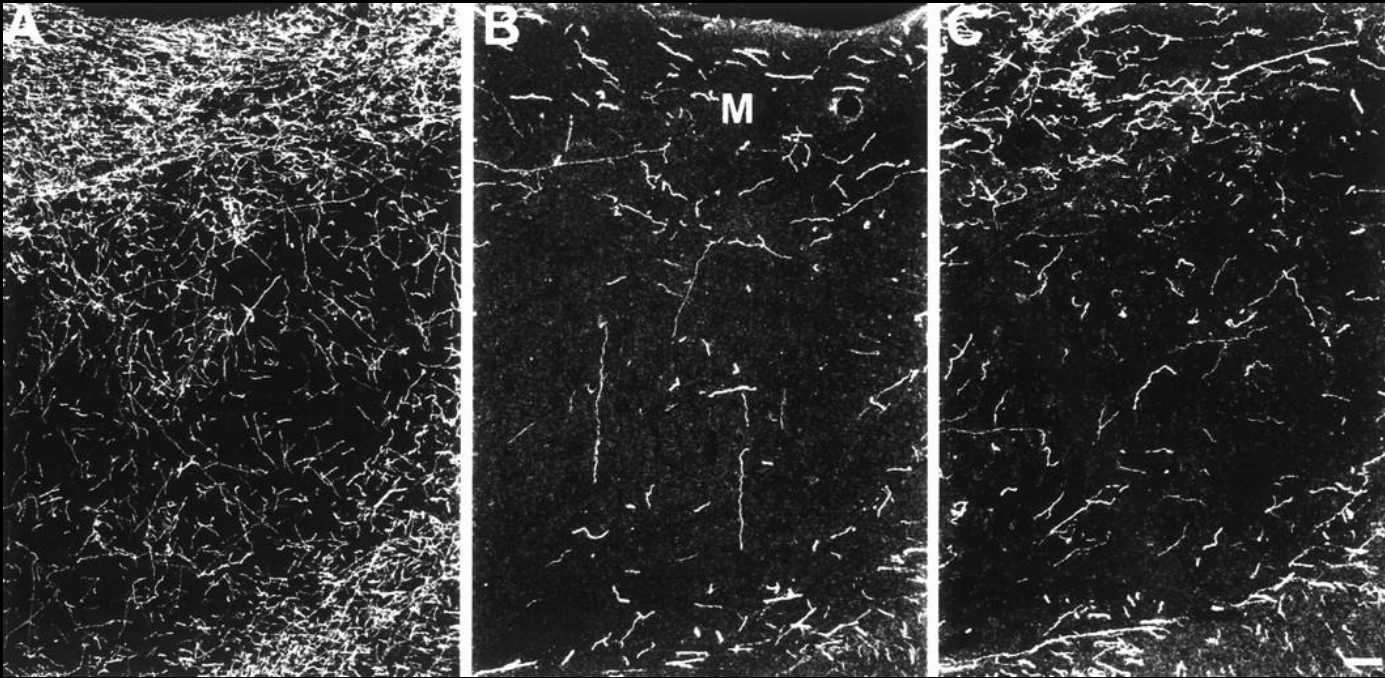
Treating PTSD  
with  
MDMA-Assisted  
Psychotherapy

Non-profit drug development supported  
by your tax-deductible donations

Source: Hatzidimitriou, G., McCann, U. D. & Ricaurte, G. A. (June 1999). Altered serotonin innervation patterns in the forebrain of monkeys treated with methylenedioxymethamphetamine seven years previously. *Journal of Neuroscience*, 19(12).

# MDMA

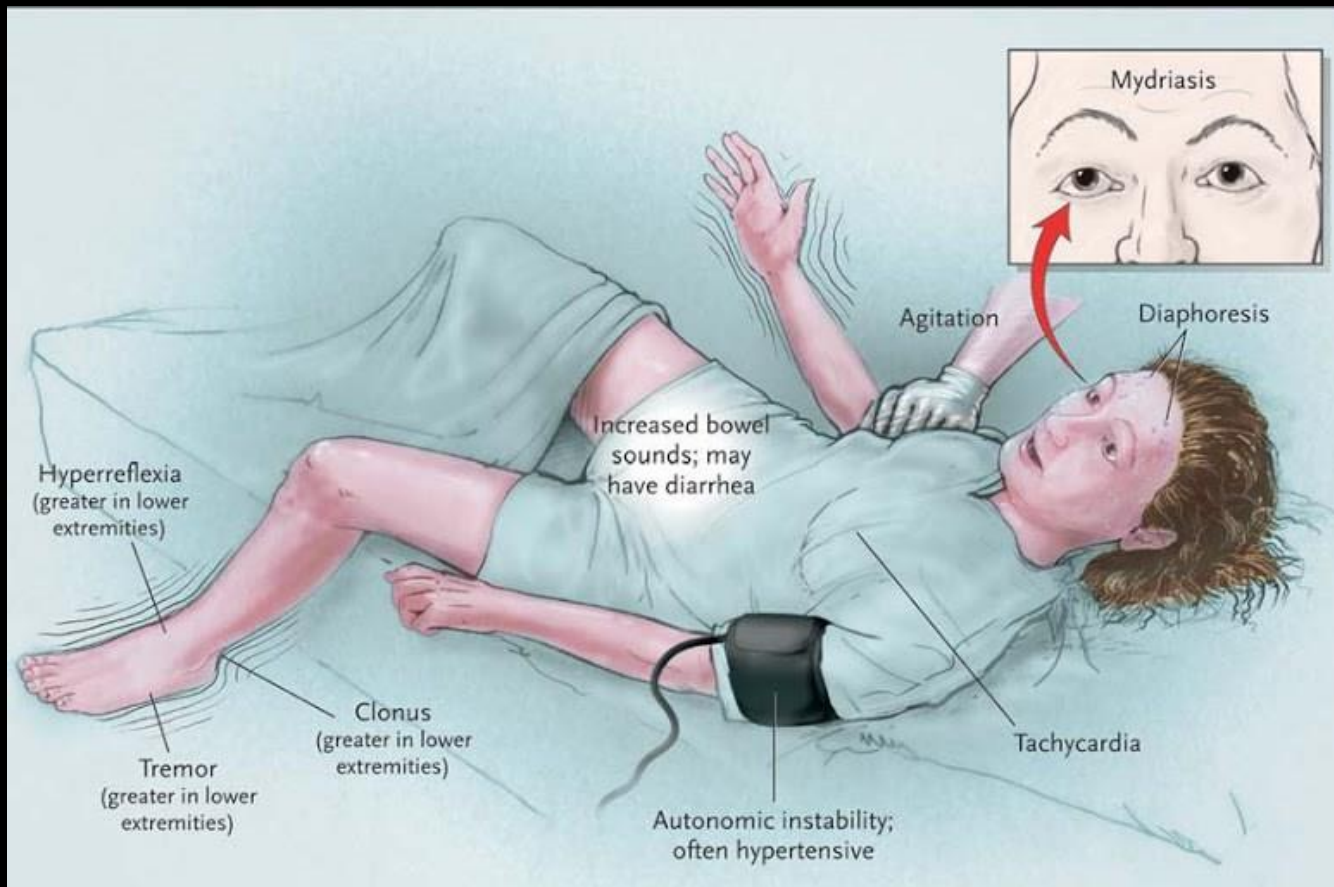
- Serotonin Syndrome



Dark-field photomicrograph, coronal plane, of 5-HT immunoreactive axons in the subiculum of a control monkey (A), a 2 week MDMA monkey (B), and a 7 year MDMA monkey (C). Note the pronounced reduction in axon density still evident 7 years after MDMA treatment. M, Molecular layer. Scale bar, 100  $\mu$ m.

# MDMA

- Serotonin Syndrome



# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- Morning Glory seeds
- Nutmeg
- DMT
- Bufotenine





# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- **Peyote**
- Morning Glory seeds
- Nutmeg
- DMT
- Bufotenine



# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- **Morning Glory seeds**
- Nutmeg
- DMT
- Bufotenine



# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- Morning Glory seeds
- **Nutmeg**
- DMT
- Bufotenine





# PSYCHEDELIC

- LSD
- MDMA
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- **DMT**
- Bufotenine





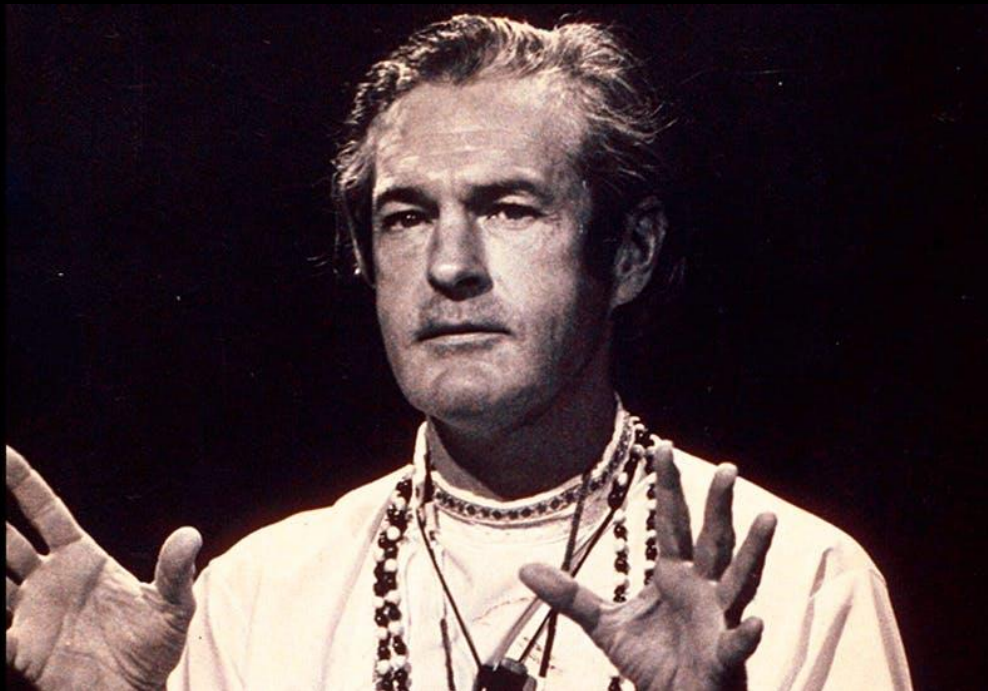
# PSYCHEDELIC

- LSD
- MDMA
- Psilocybin
- Peyote
- Morning Glory seeds
- Nutmeg
- DMT
- **Bufotenine**



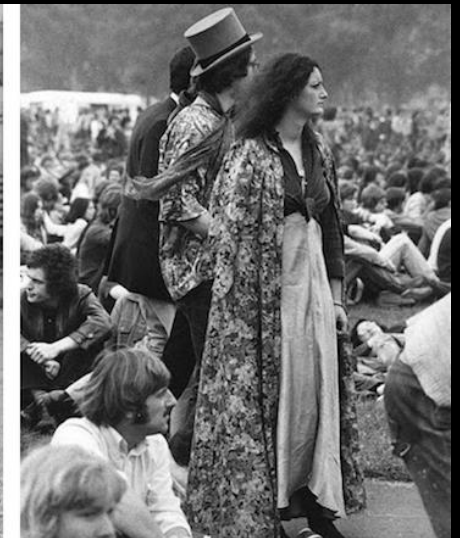
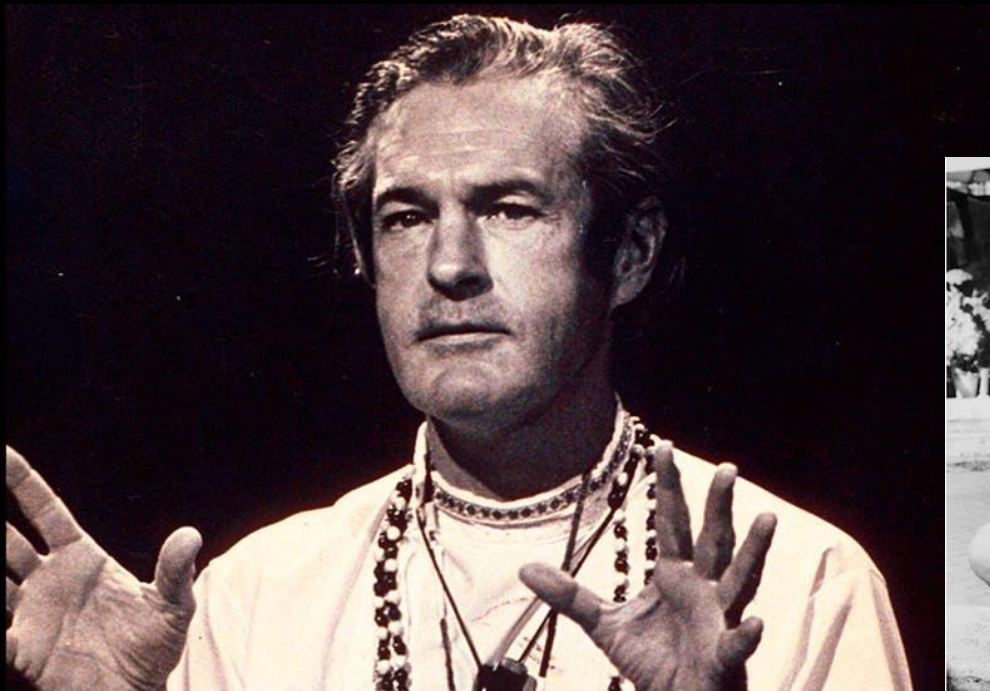
# COUNTER CULTURE

- Timothy Leary
- "Tune on, Tune in, Drop out"



# COUNTER CULTURE

- Timothy Leary
- "Tune on, Tune in, Drop out"
- Moody Blues – Legend of a Mind



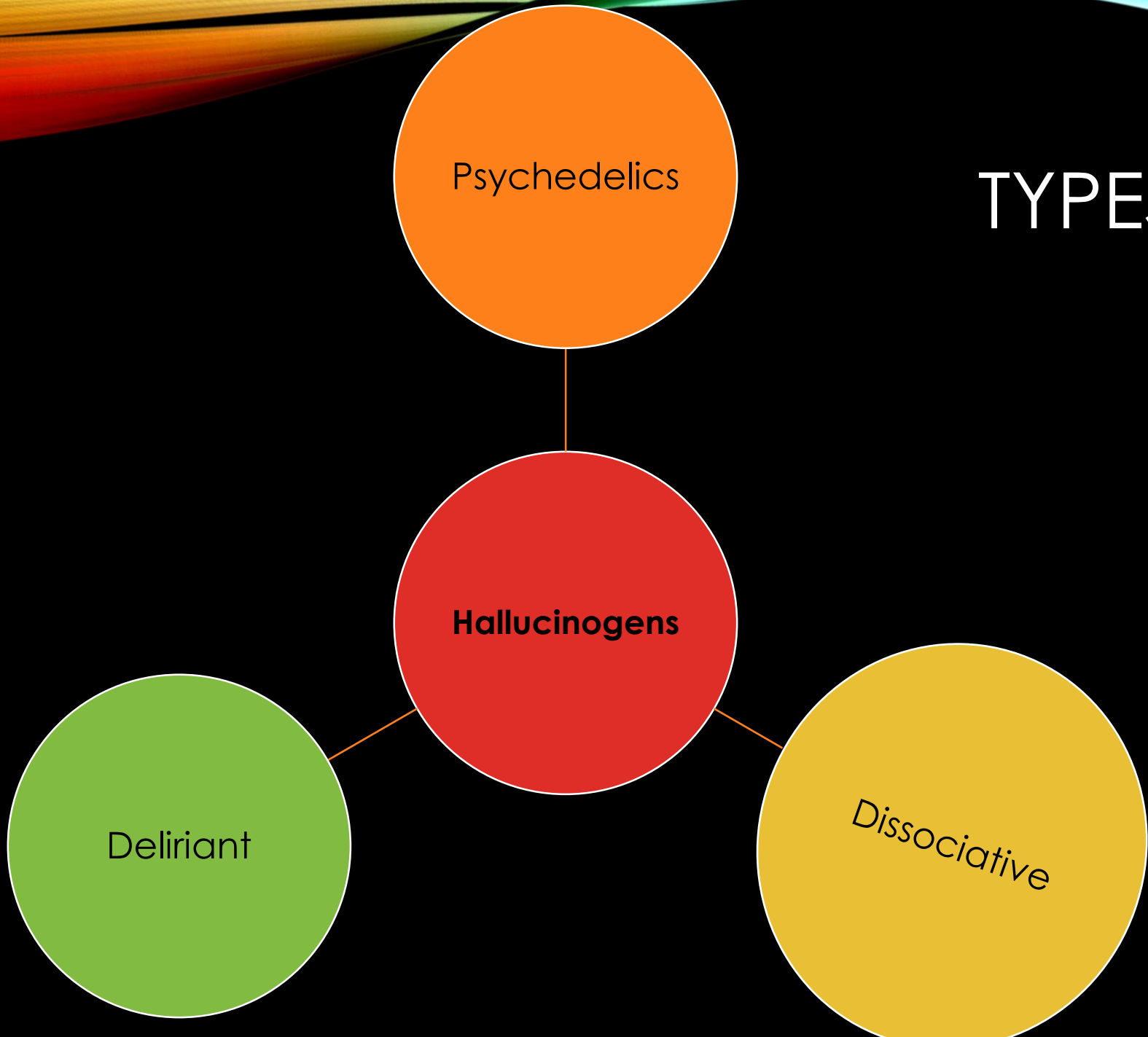
# TYPES

Psychedelics

Hallucinogens

Deliriant

Dissociative





# DISSOCIATIVE

- Mushrooms
- Salvia
- PCP



# DISSOCIATIVE

- Mushrooms
- **Salvia**
- PCP





# PSYCHEDELIC INSPIRATIONS

- Fantasia - 1940



- Alice in Wonderland - 1951
- Jefferson Airplane



# MNT BUCCANEERS

- Describe the recreational and legal status of *Salvia divinorum*



# DISSOCIATIVE

- Mushrooms
- Salvia
- PCP
  - Angel Dust

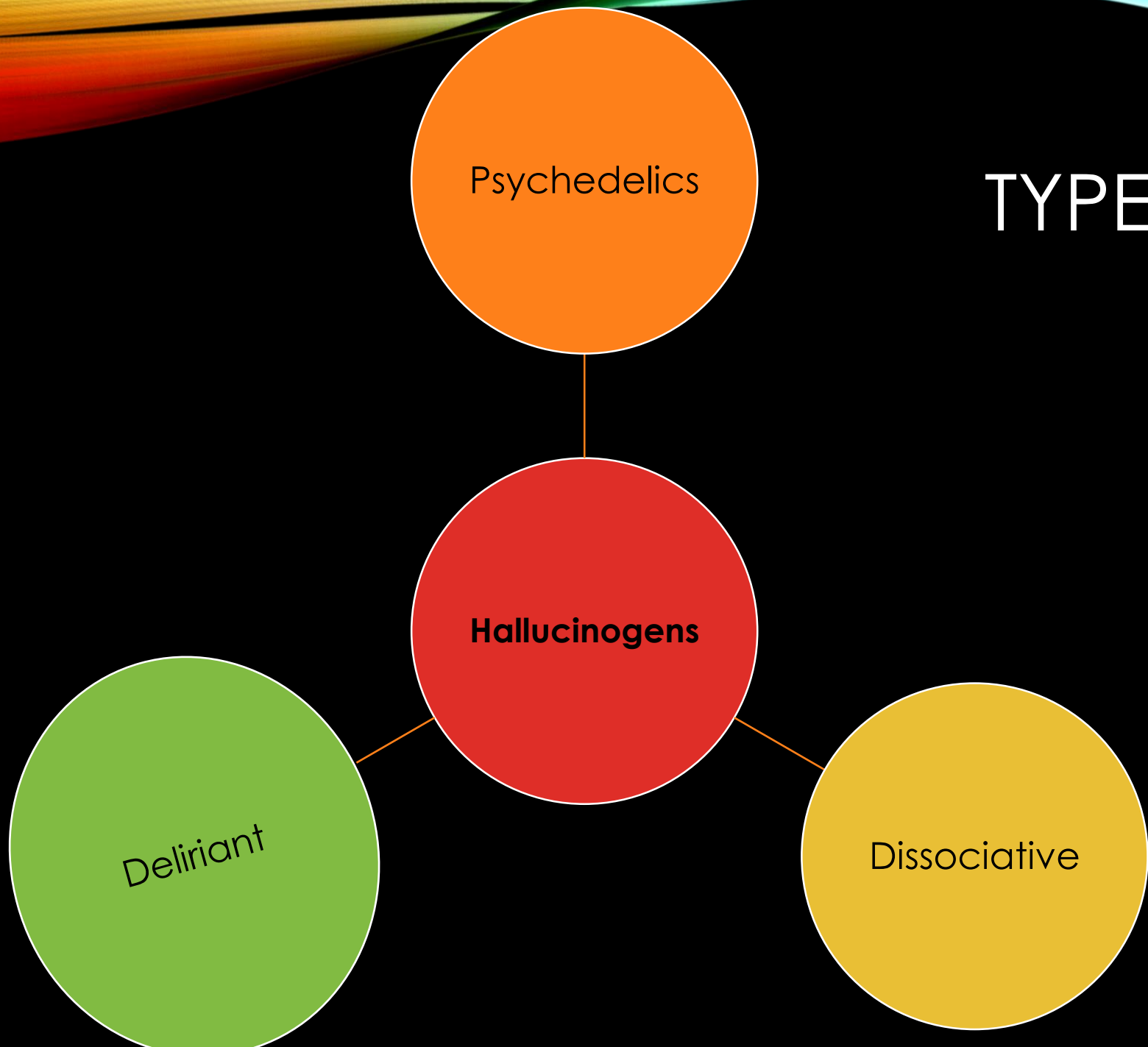


# FOX CYCLONES

- Characterize PCP differs from other hallucinogens and why it is so dangerous



# TYPES



# DELIRIANTS

- Nightshade



- Datura





# PSYCHEDELIC INSPIRATIONS

- Fantasia - 1940



- Aldous Huxley

- The Doors of Perception - 1954

- Alice in Wonderland - 1951

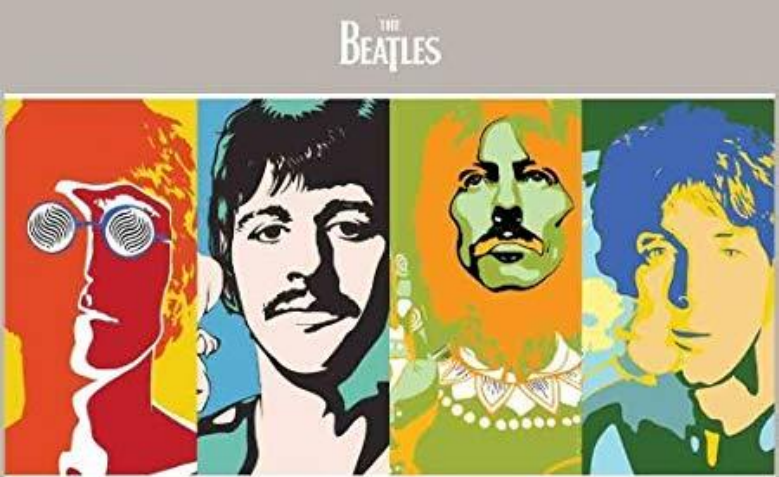
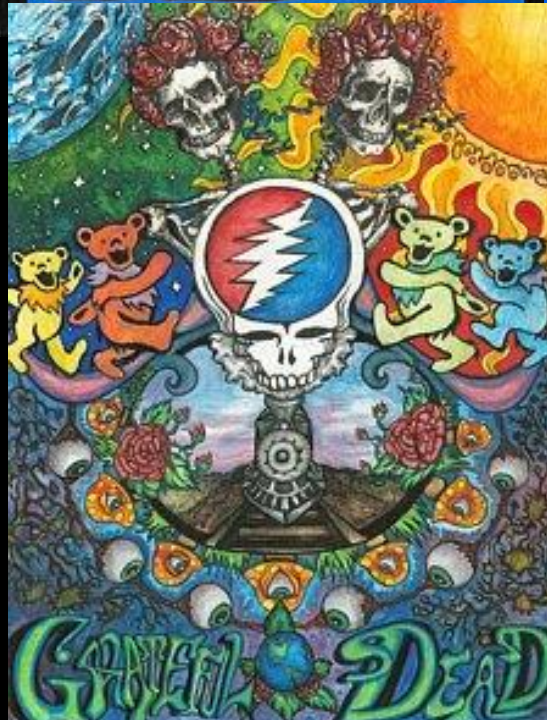
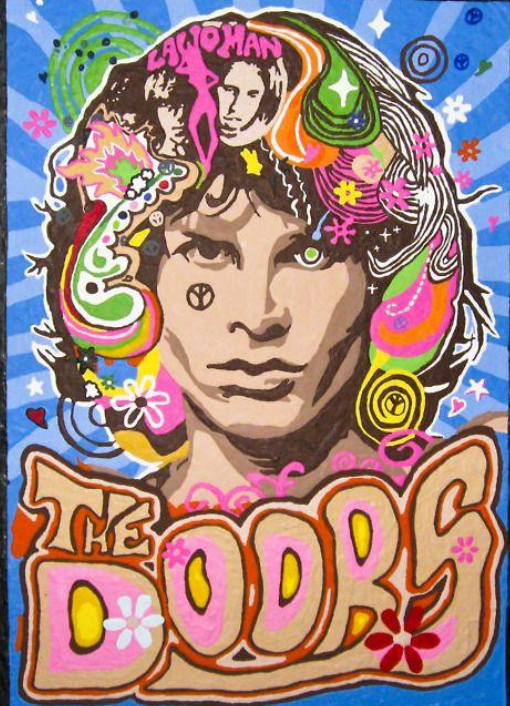


- The Doors

- The Gamblers

- Jefferson Airplane







# NATURAL?

- Many hallucinogenic drugs are “natural” in that they are plants, fungi, & amphibians that occur in nature, does this mean they are safe to use?

# NOV 12 – WORK GROUP TOPICS

- Read Ch. 9 – Narcotics
- **BRN – Chargers** = Describe the principle pharmacological effects of narcotics.
- **FOX – Cyclones** = Identify major side-effects of narcotics, in particular their abuse potential
- **MNT – Buccaneers** = Distinguish between narcotic physical dependence and addiction.
- **MAN – Blue Devils** = Explain narcotic tolerance and withdrawal symptoms
- **BRN – Bluegold**s = Describe and compare the use of methadone and buprenorphine in the treating narcotic addiction.
- **FOX – Titans** = Explain the unique features of fentanyl that makes it appealing to illicit drug dealers but dangerous to the addict.
- **MAN – Phoenix** = Describe how “designer” drugs have been associated with narcotics and Parkinson’s disease.
- **MNT – Phoenix** = Describe why/how dextromethorphan and tramadol are potential for abuse