



The History, Science & Magic of Psilocybin

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Ethnomycology





The Red Lady of El Miron

- >18,000 years ago
- Northern Spain

Bee-Man of
Tassili

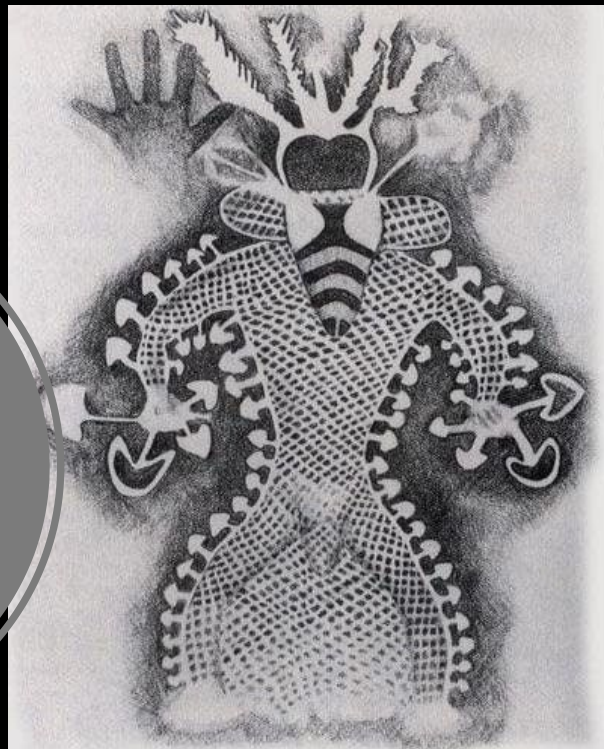


FIGURE 3. The bee-faced mushroom shaman of Tassili-n-Ajjer. Drawing by Kat Harrison-McKenna. From O. T. Oss and O. N. Oeric, *Psilocybin: The Magic Mushroom Grower's Guide*, 1986, p. 71. From the original in Jean-Dominique Leuzou, *The Rock Paintings of the Tassili* (New York: World Publishing, 1963), p. 71.

2

FOOD OF THE GODS



5000 BCE (7,000 years ago)

Southern Algeria

Indigenous Cultures of Mesoamerica



Fig. 13. TEO-NANÁCATL

as represented by a 16th century Mexican artist.

From Mathebianus Codex, Biblioteca Nazionale, Florence.

- Aztec Civilization – *Psilocybe mexicana*, *teonanacatl* – Gods Flesh
- 16th Century – Friar Bernardino de Sahagun
- Aztec Emperor Moctezuma – Feast of the Revelations



Poporo –
Quimbaya Culture
Mambeo
ceremonies

- 900-1200 AD
- Columbia

Christianity & the Spread of Catholicism

- Conquistadors/
Catholic Missionaries
(1531) – campaign
against “pagan
idolatry” – eradicated
native rites, religions,
beliefs & artifacts





Maria Sabina

- 1894-1985
- Oaxaca, Mexico







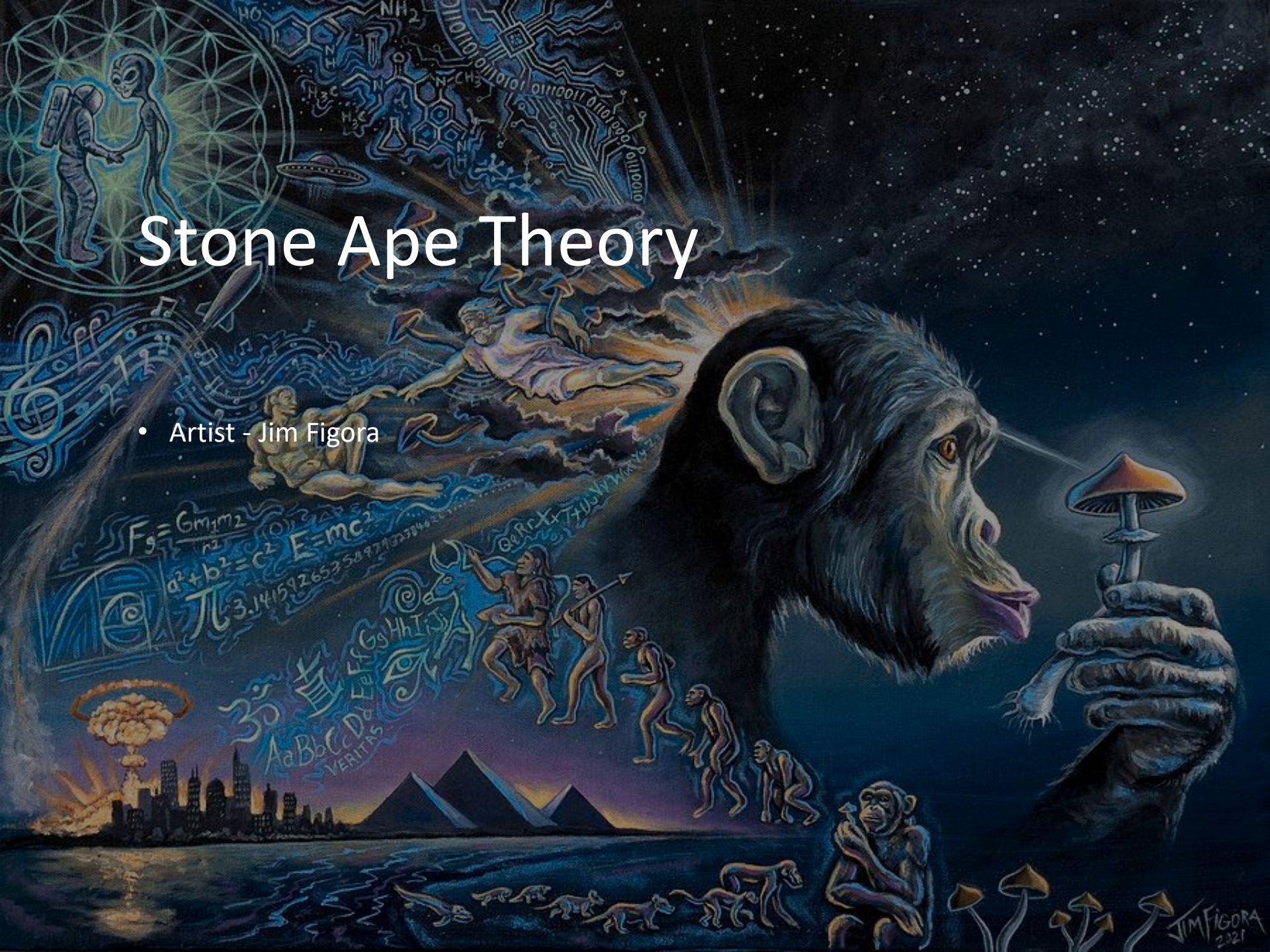
“From the moment the foreigners arrived to search for God, the saint children lost their purity,” she said. “They lost their force; the foreigners spoiled them. From now on they won’t be any good. There’s no remedy for it.”

A photograph of several mushrooms growing in a grassy area. The mushrooms have light-colored caps and stems, with some showing dark spots. The background is filled with green grass and some dark soil. The word "Habitat" is written in white text on the left side of the image.

Habitat

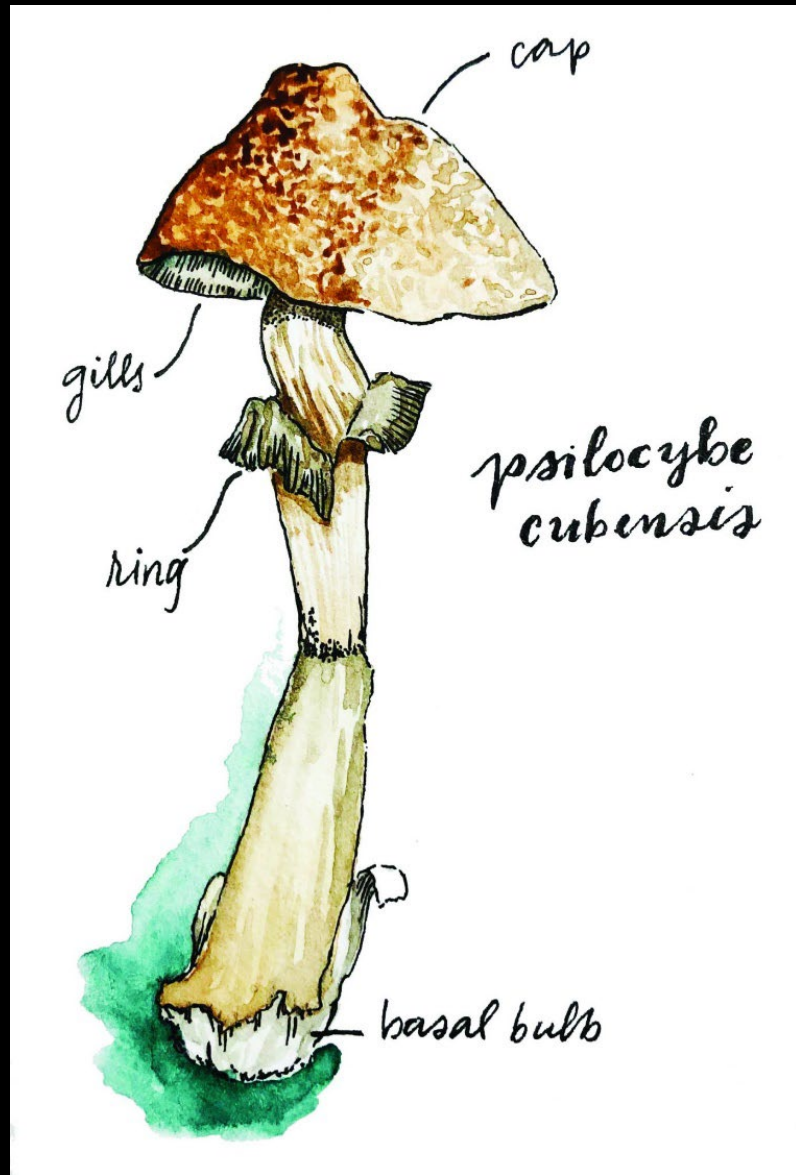
Stone Ape Theory

- Artist - Jim Figura



JIM FIGURA
2021

Identification - Anatomy




Identification

- Spore Print: purplish brown to black



- Bruising Flesh : light to dark blueish
- ID HELP: FB identification groups, mushroomobserver.org, inaturalist





Psilocybe
Species
Psilocybin
containing
mushrooms

- *Psilocybe cubensis* – different strains/breeds within this species
- *Psilocybe mexicana*
- *Psilocybe ovoideocystidiata*
- *Psilocybe azurescens*
- *Psilocybe tampanensis* - truffles

Percent by Weight of Dried Mushroom Material

Species	Psilocybin	Psilocin	Baeocystin	References
<i>P. azurescens</i>	1.78	0.38	0.35	8
<i>P. bohemica</i>	1.34	0.11	0.02	9, 10
<i>P. baeocystis</i>	0.85	0.59	0.10	11, 12
<i>P. tampanensis</i>	0.68	0.32	n/a	10
<i>P. hoogshagenii</i>	0.60	0.10	n/a	13
<i>P. stuntzii</i>	0.36	0.12	0.02	11, 12

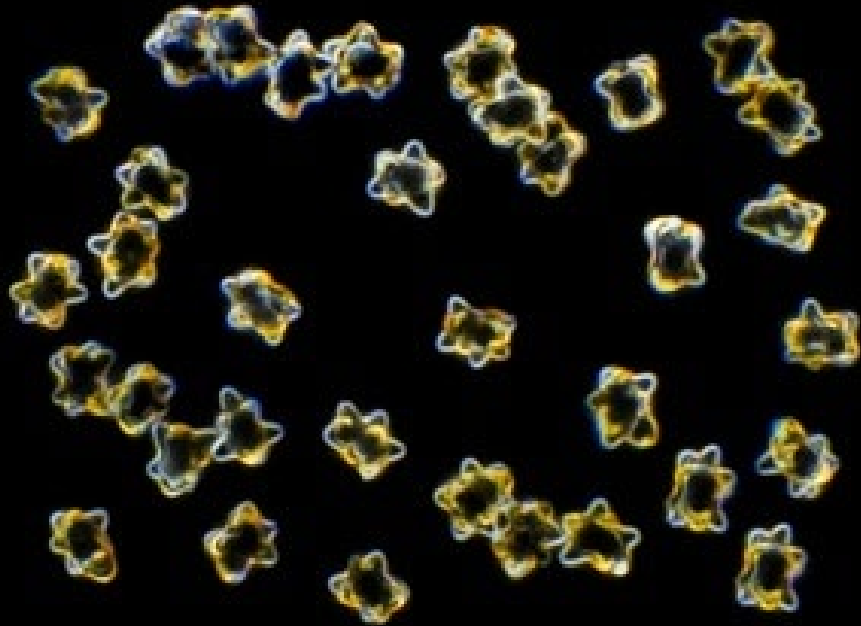
Psilocybin Mushrooms of the World, Paul Stamets

Non- Psilocybe Psilocybin Containing Mushrooms

- **Panaeolus**
 - cyanescens – active, moderately potent. 0.71% psilocybin, 0.04% psilocin, 0.01% baeocystin.
 - tropicalis – active, potent.
- **Gymnopilus**
 - 10 species known to be psilocybin-active
 - Familiarize with look alike Galerina species (contain deadly poisonous species)
- **Inocybe**
 - Many poisonous species
 - Insignis – first species to test positive for psilocybin in N.America
 - Location – Ohio
 - Founder – Evan Adkins
 - Microscopy & Potency Testing – Alan Rockefeller

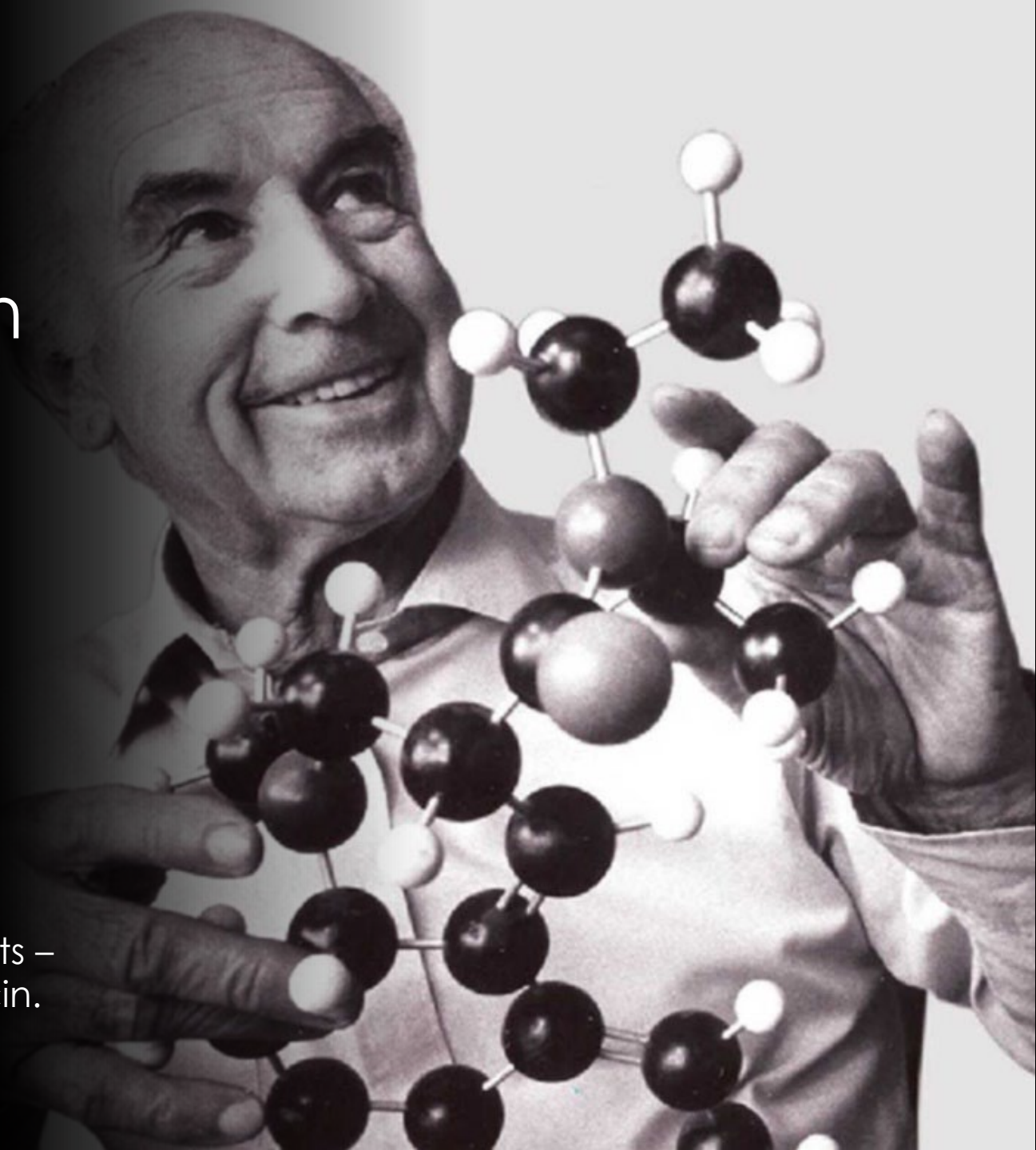
Inocybe insignis

mushroomobserver.org –
Alan Rockefeller,
Rosemount, OH

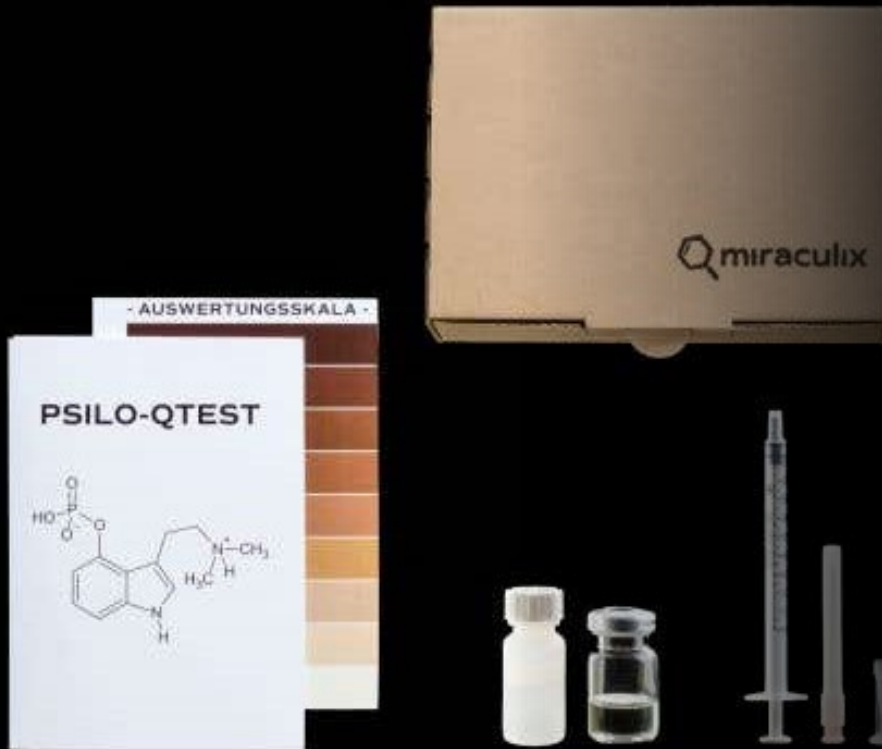


Science behind Psilocybin

- Albert Hofmann – 1957, *Psilocybe mexicana* from Oaxaca, Mexico.
- Paper chromatography
- Chemically characterized active components – psilocybin & psilocin.



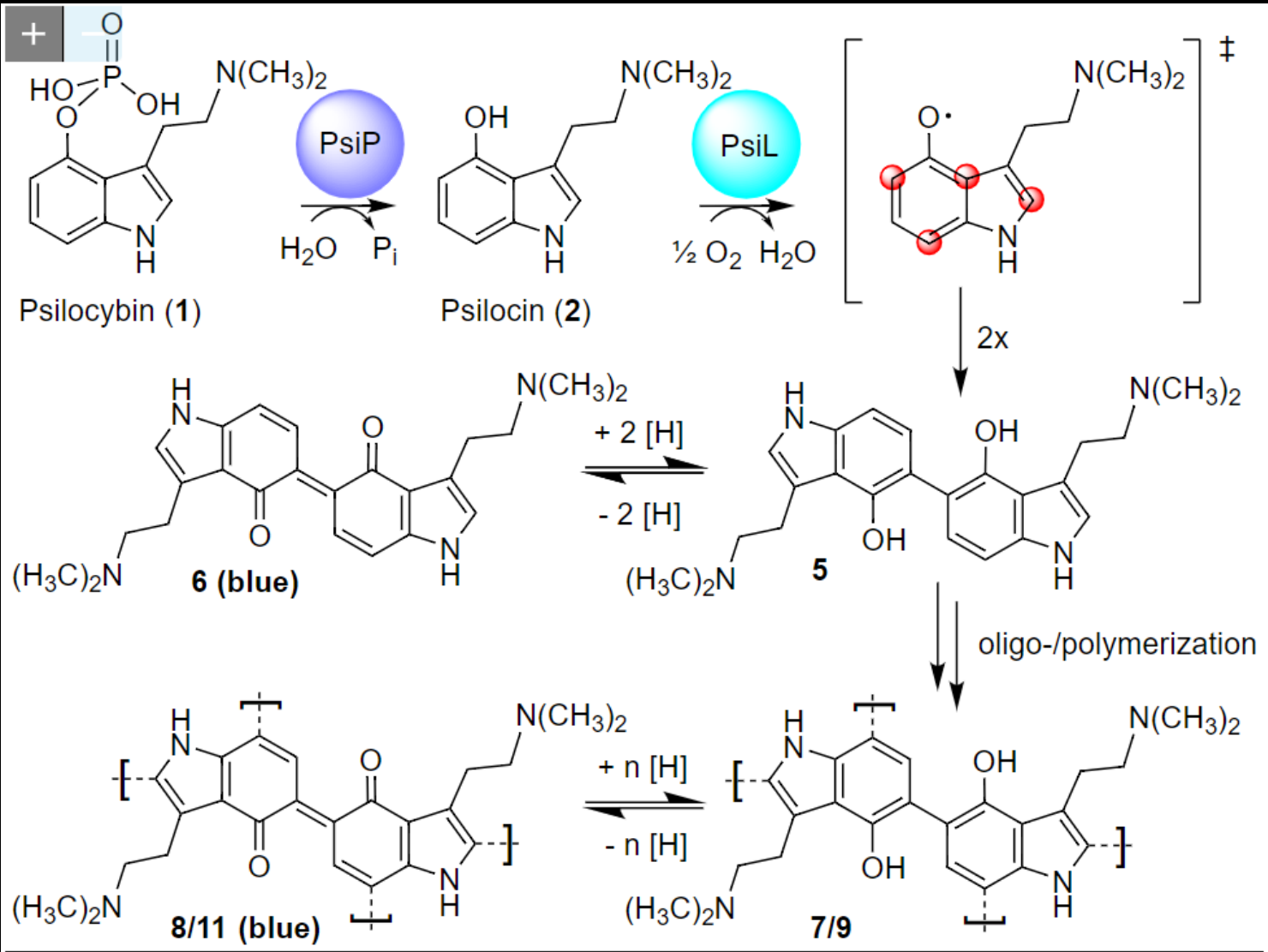
Potency Testing Technology



- Miraculix
 - “Innovative quantitative rapid tests for the determination of the concentration of psychedelic substances.”
 - LSD, MDMA, Psilocybin - \$14.95

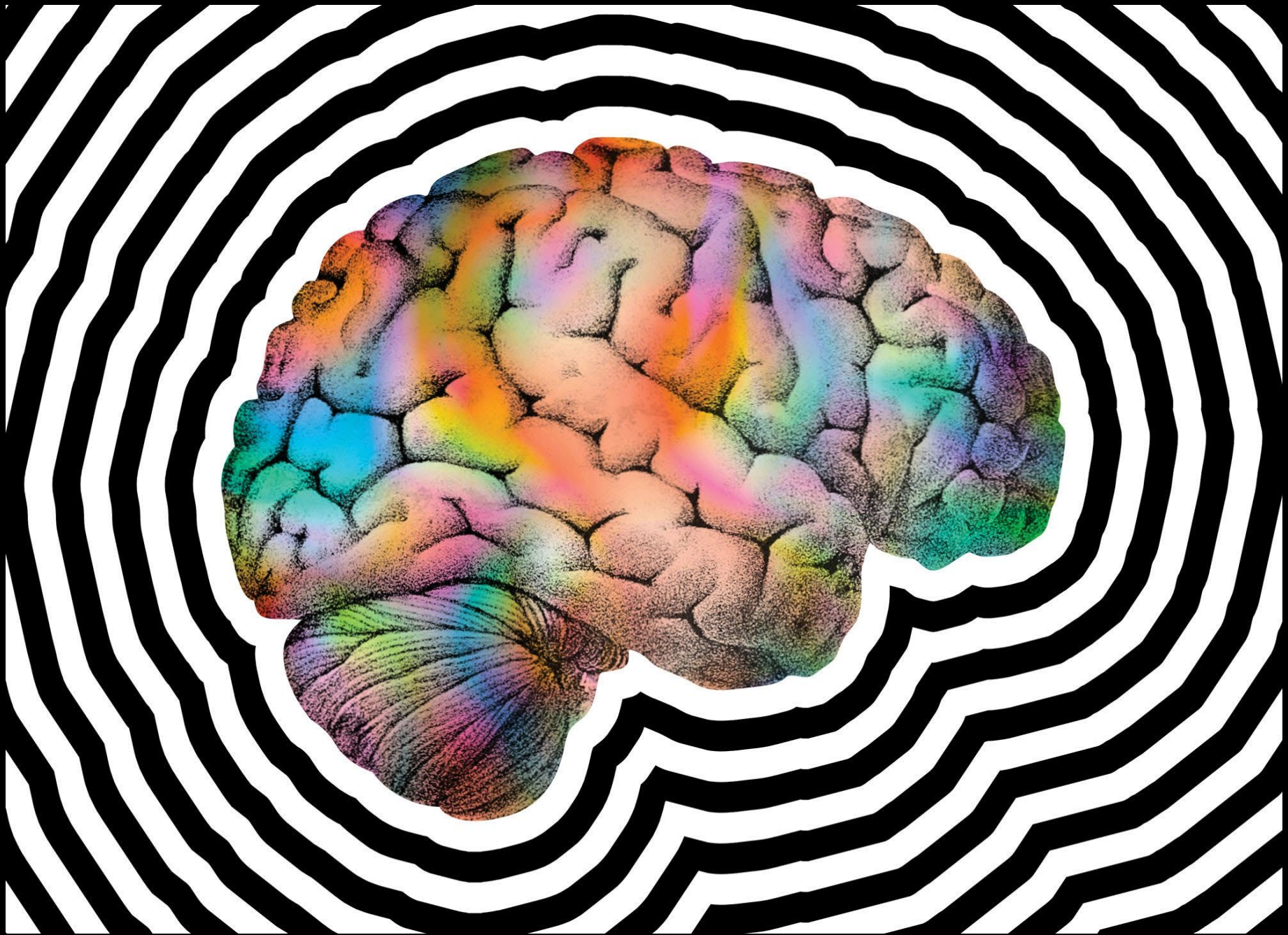


Bluing
Reaction
(Bruising)



Source: © 2019 Claudius Lenz et al

Proposed reaction scheme for the conversion of psilocybin into blue pigments



Chemical Compounds

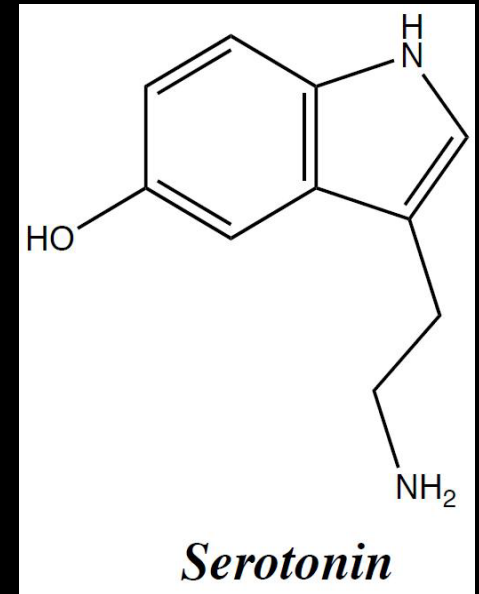
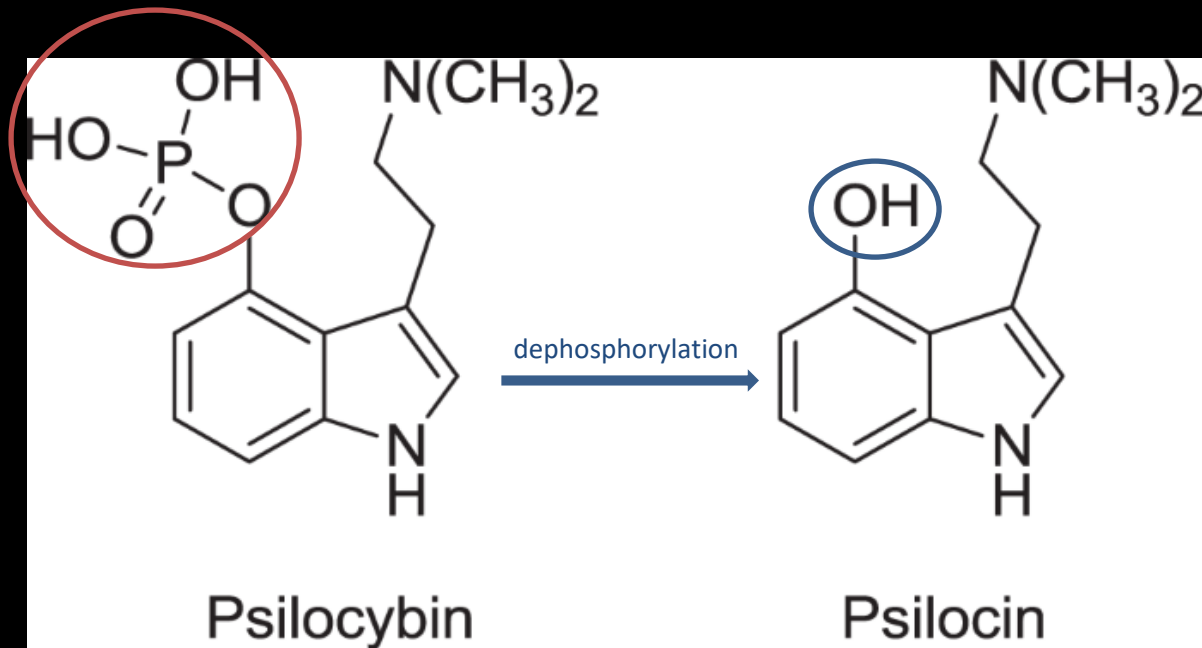
- Psilocybin – tryptamine alkaloid. Serotonergic psychedelic.
- prodrug to psilocin



PsiD
PsiK
PsiM

- Psilocin – tryptamine alkaloid, primary bioactive psychoactive component, binds to the serotonin receptor – 5-HT_{2a}
- Norpsilocin, Baeocystin, Norbaeocystin...

Organic Chemistry

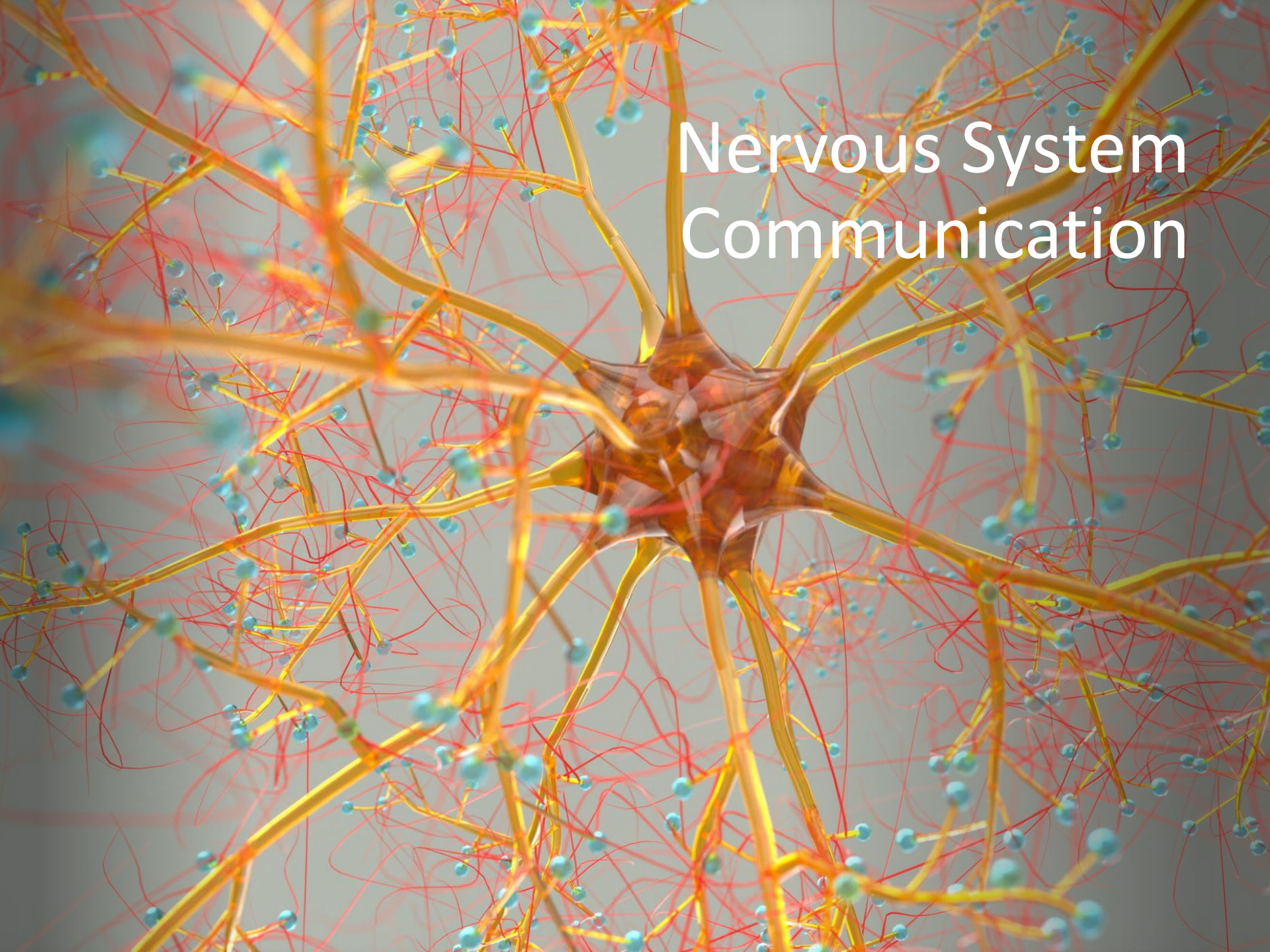


Monoamine neurotransmitter made from the essential amino acid – tryptophan.

Serotonin (5-hydroxytryptamine, 5HT)

- Neurotransmitter (chemical messenger) carries signals between neurons (nerve cells).
- Physiological effects of 5-HT receptor:
 - Mood
 - Memory
 - Neuroplasticity
 - Sleep
 - Appetite
 - Cognition
 - Temp regulation
 - Stress response





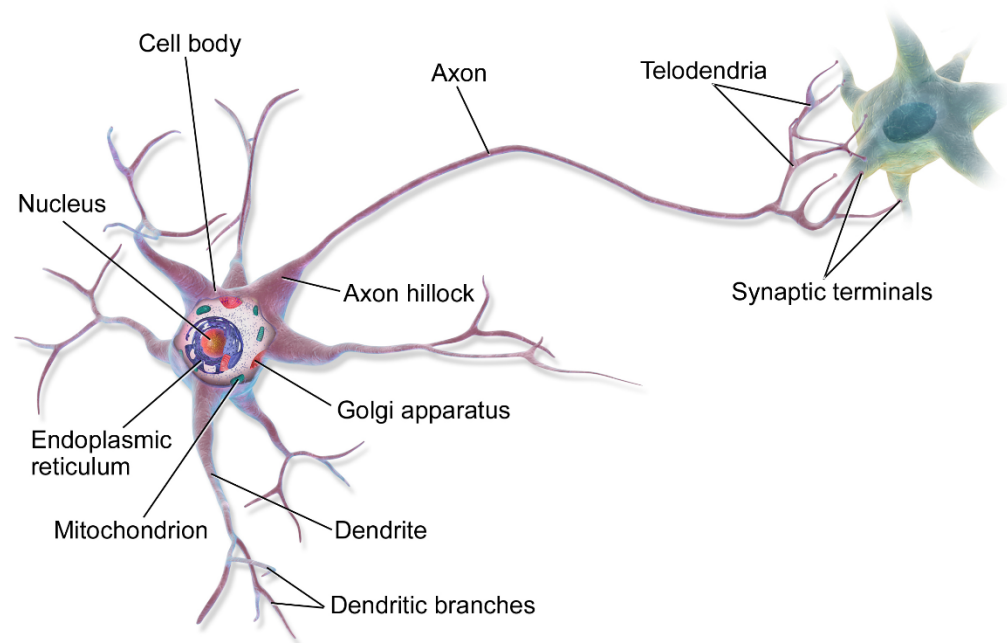
Nervous System Communication

Neuron – Nerve Cell

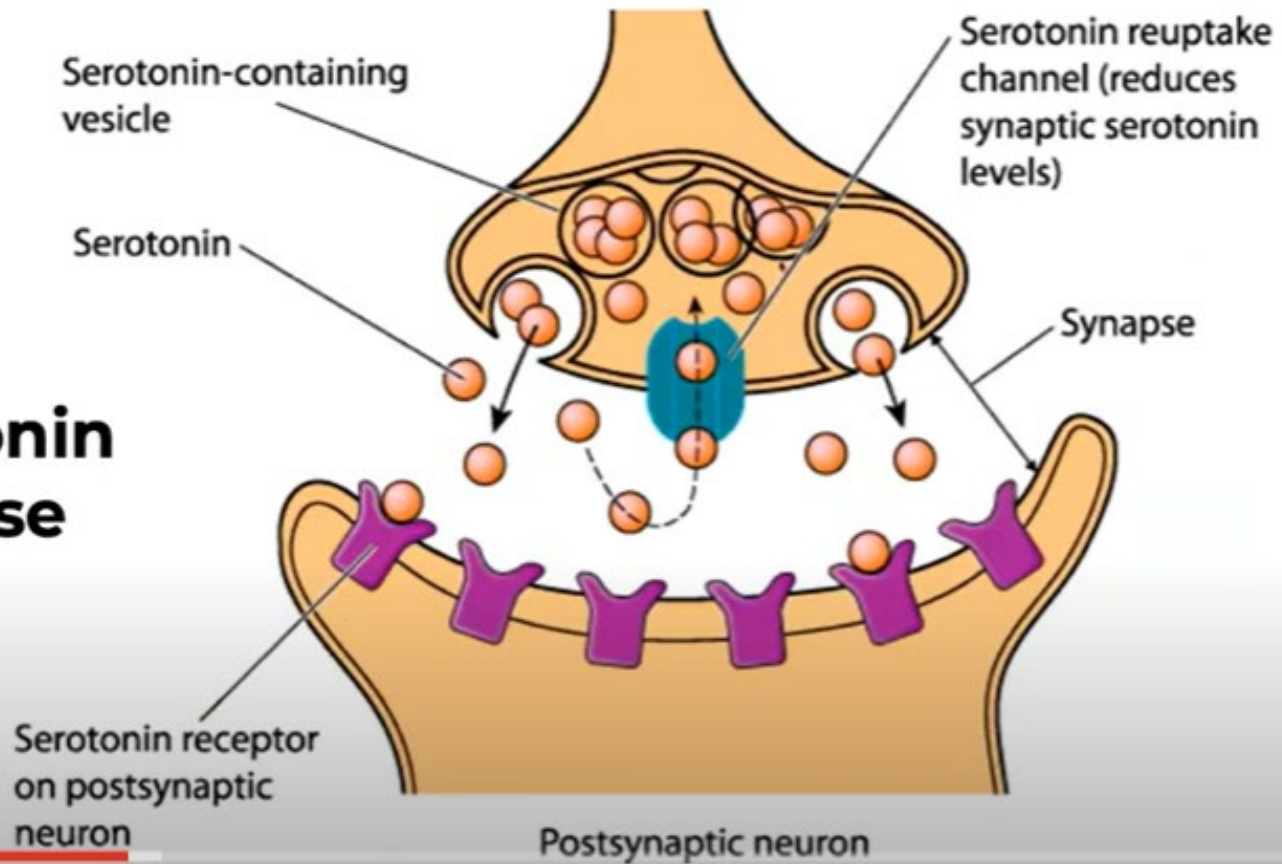
- The fundamental unit of the brain and nervous system

Uses electrical impulses & chemical signals to:

- Receive sensory input from the external world
- Transmit signals between areas of the brain
- Communication between brain and nervous system
- Send motor commands between muscles & body



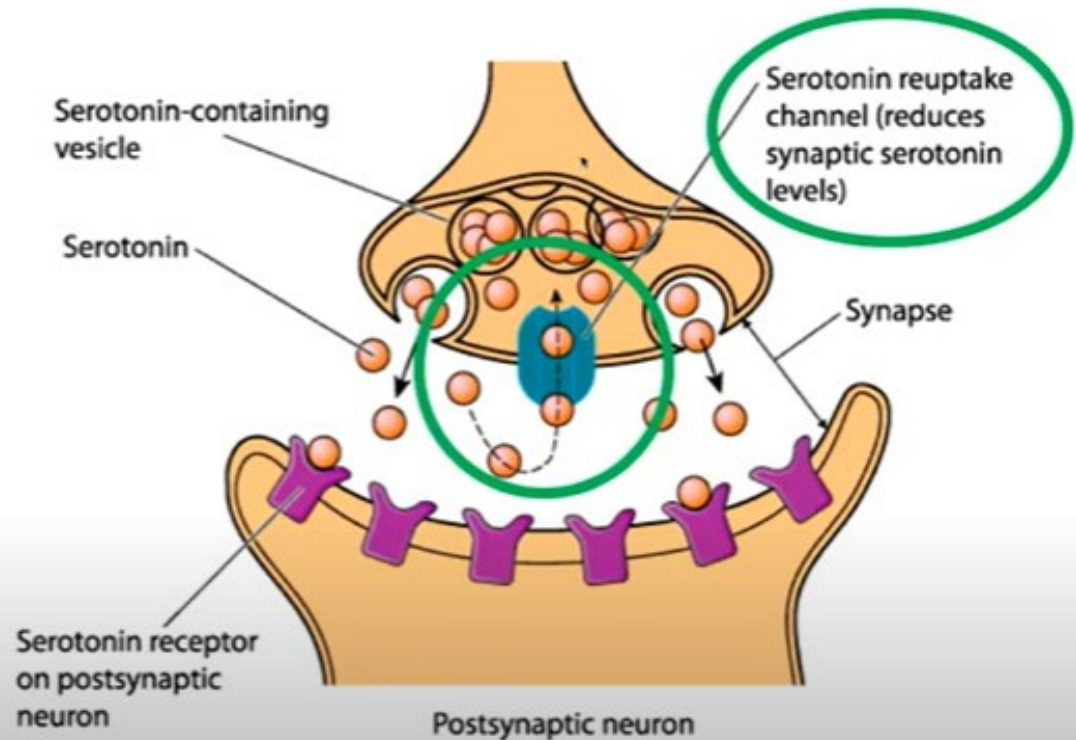
Serotonin Synapse



Serotonin Reuptake

Normal (unmedicated):

After sending a message, the pre-synaptic ("sender") neuron reabsorbs the serotonin.



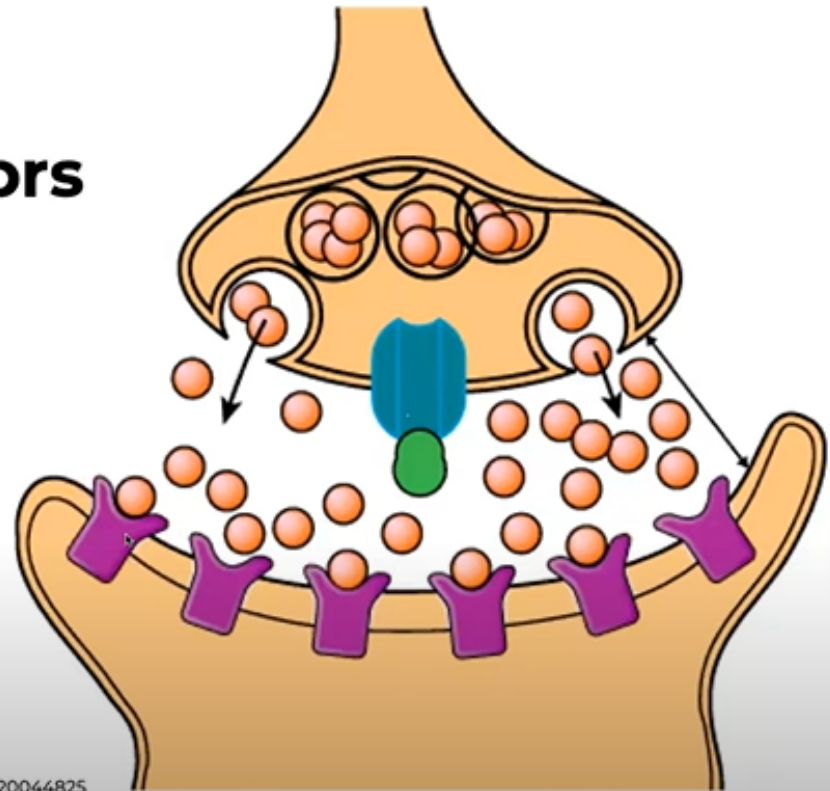
SSRIs & 5-HT Receptors

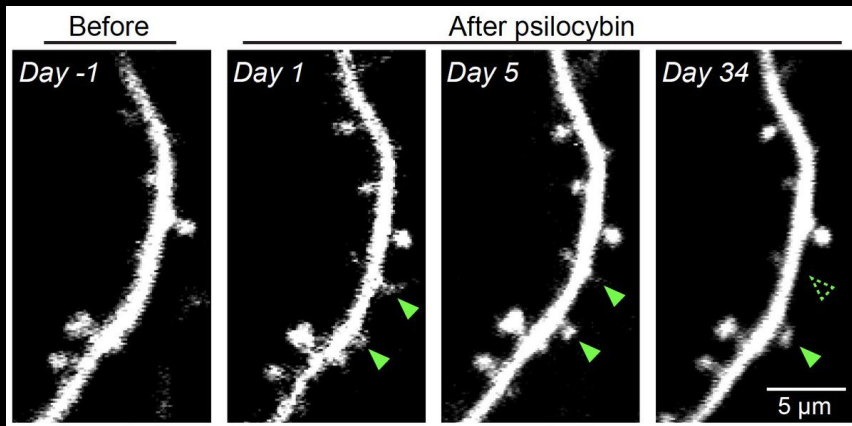
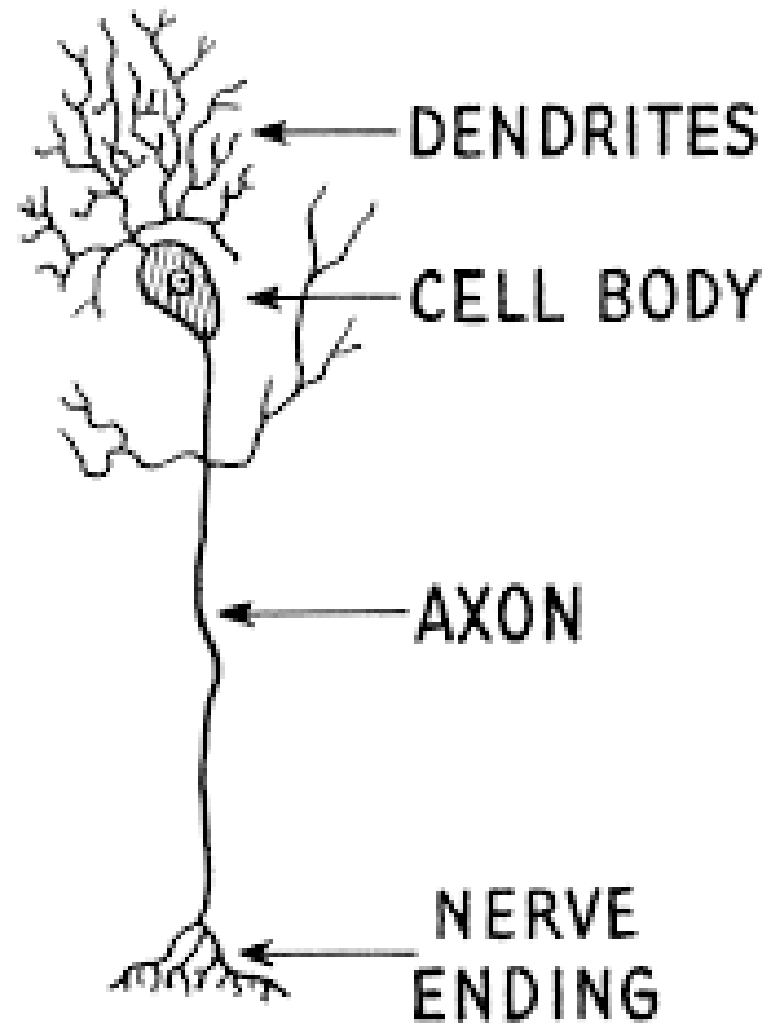
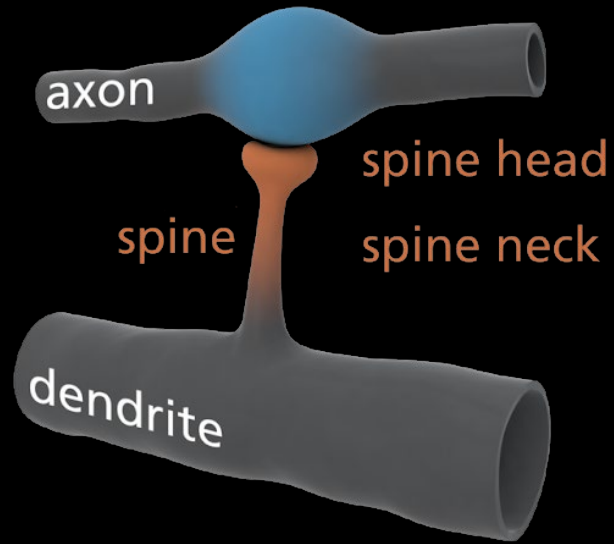
SSRIs Block reabsorption of serotonin (5-HT) by pre-synaptic neurons

→ 5-HT stays in synapse longer

→ More 5-HT available

→ Improved message transmission







Neurogenesis: the ability to create new neurons (brain cells) and connections between neurons.



Neuroplasticity: the capacity of the brain to change and rewire itself in response to the stimulation of learning and experience.



Neurogenesis

Continuous generation of new neurons in certain brain regions



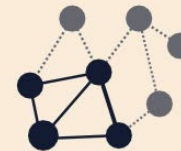
New synapses

New skills and experiences create new neural connections



Strengthened synapses

Repetition and practice strengthens neural connections



Weakened synapses

Connections in the brain that aren't used become weak

PLACEBO



PSILOCYBIN



PSYCHEDELIC
RESEARCH GROUP
Imperial College London



BECKLEY
FOUNDATION



Therapeutic Uses

- **2020 – 1 billion people affected by mental health or substance disorder.**
- **Anxiety – 284 million**
- **Depression – 264 million**
- **Addiction (alcohol) – 107 million**
- **Addiction (drug use) 71 million**
- **PTSD**
- **Suicide – 800,000**



Setting Intention

- Purpose of experience
- Outcome goals
- What are you looking to accomplish/learn

Dosage



PSILOCYBIN EXPERIENCES BY DOSAGE

Learn more at [RealitySandwich.com](https://realitysandwich.com)

LEVEL 1

Microdose

0.05-
0.25g

Mood
Enhancement



Crisp
Concentration



Increased
Mental
Stamina

LEVEL 2

Mini-dose

0.25-
0.75g

Feeling Stoned



Mild Euphoria



Visual
Enhancements



Short Term
Memory
Anomalies



Altered Sound
Perception

LEVEL 3

Museum Dose

0.5-
1.5g

Colors Become
More Vivid



Closed & Open
Eye Visuals



Distracted
Thought Pattern



Enhanced
Creativity

LEVEL 4

Moderate Dose

2.0-
3.5g

Warped &
Kaleidoscopic
Visuals



Mild
Hallucinations



3D Closed Eye
Visuals



Minor
Synesthesia



Distorted
Sense of Time

LEVEL 5

Megadose

3.5-
5.0g

Heavy
Hallucinations



Ego
Dissolution



Mild Disconnect
From Reality



Complete
Loss of Time



Synesthesia



Out of Body
Experiences

LEVEL 6

Heroic Dose

5.0g

Complete
Altering
of Senses



Ego
Death



Complete
Disconnected
From Reality

TANT: This graphic was created for educational purposes only. Please carefully consider and implement all harm reduction modalities before choosing to alter your consciousness.



Factors

- Environment/Surroundings
- Physical Wellbeing
- Mental Health
- Medications – SSRI's
- Tolerance
- Product

Window of Tolerance

Describes the arousal in which one functions most effectively:

Readily perceive, process, and integrate information

Responds to the demands of everyday life (without too much difficulty)

Relate to self & others




EFFECTS

- EUPHORIA
- GIDDINESS
- PARANOIA
- ANXIETY
- FEAR
- HALUCINATIONS
- TIME DISTORTION
- ALTERED COLORS AND SOUNDS
- EMOTIONAL RELEASE
- SPIRITUAL EXPERIENCES



Integration

- Integration is the art of weaving the extraordinary into the ordinary – interpreting a journey’s mythical and symbolic layers, revealing its gifts, and anchoring them into our lives. [Borzat]



What is Integration to you?

- Unraveling
- Understanding
- Making sense of
- Changes in how I tell my story
- Paradigm shift
- Mind expansions
- Perspective shift
- Broadening imagination to self
- Growth
- Self-love
- Letting go
- Energy shift within



Conscious
Revolution