

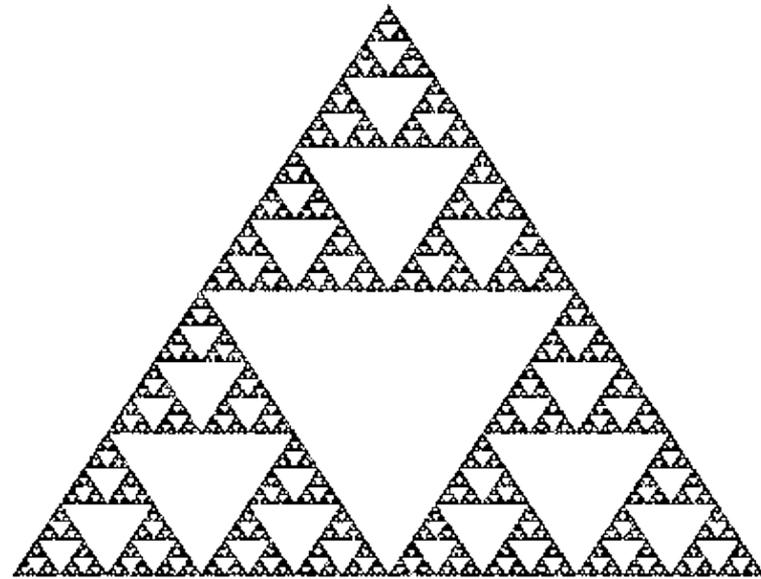
# STRUCTURES

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Fractals, psychedelics and consciousness

# THE CONCEPT OF FRACTALS

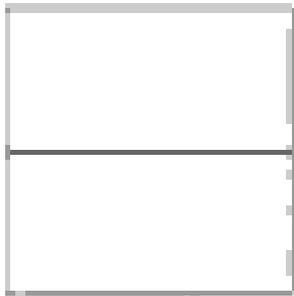
- **Fractals** are usually defined as geometric shapes, which can be divided into parts, each of which is a miniature copy of the whole. Fractals are a combination of rigorous mathematical rules and art, a visual projection of a mathematical formula. They have a property of self-similarity and extend infinitely.



An example of fractal patterns  
**Sierpiński triangle**

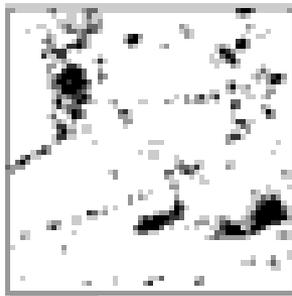
# A FRACTAL DIMENSION

**A fractal dimension** is an index for characterizing fractal patterns or sets by quantifying their complexity as a ratio of the change in detail to the change in scale. Roughly said it defines a structure by its complexity.



$D=1$

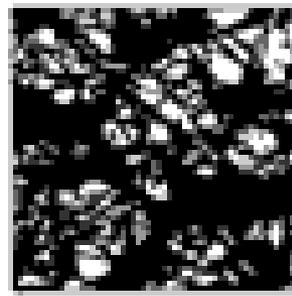
(non-fractal)



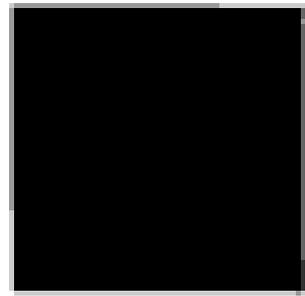
$D=1.1$



$D=1.6$



$D=1.9$

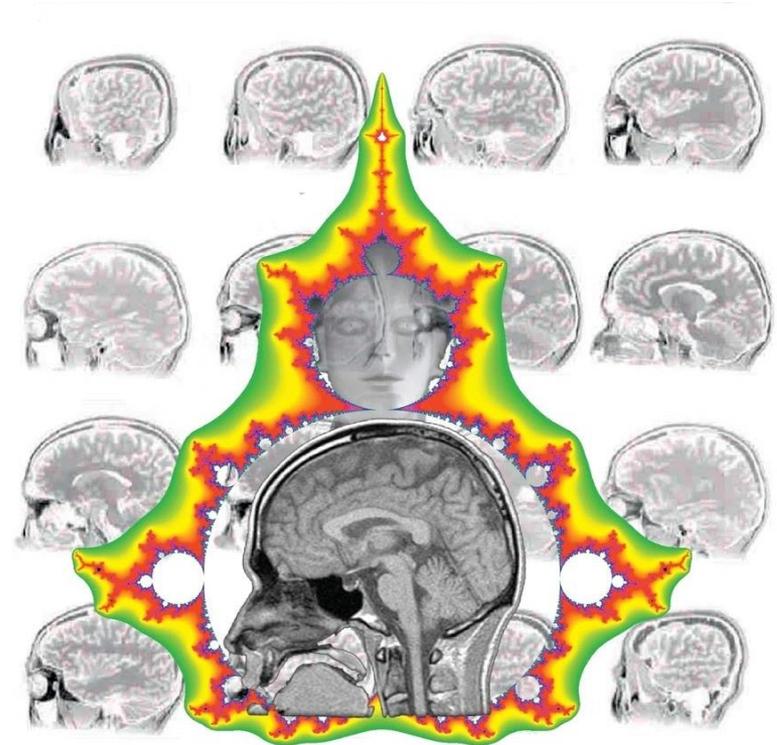


$D=2$

(non-fractal)

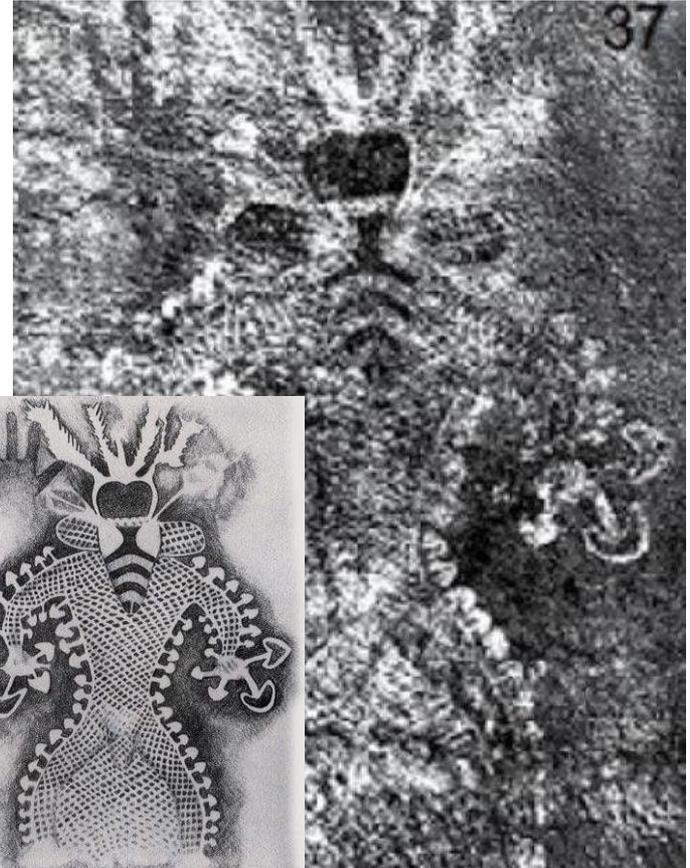
# FRACTAL CONSCIOUSNESS

- **Consciousness** is another manifestation of reality's underlying fractal nature, in other words consciousness is fractal because nature is fractal.
- Even the physiology of our brain is fractal (branching pattern of the neuron's axons and dendrites)



# CONSCIOUSNESS AND PSYCHEDELICS

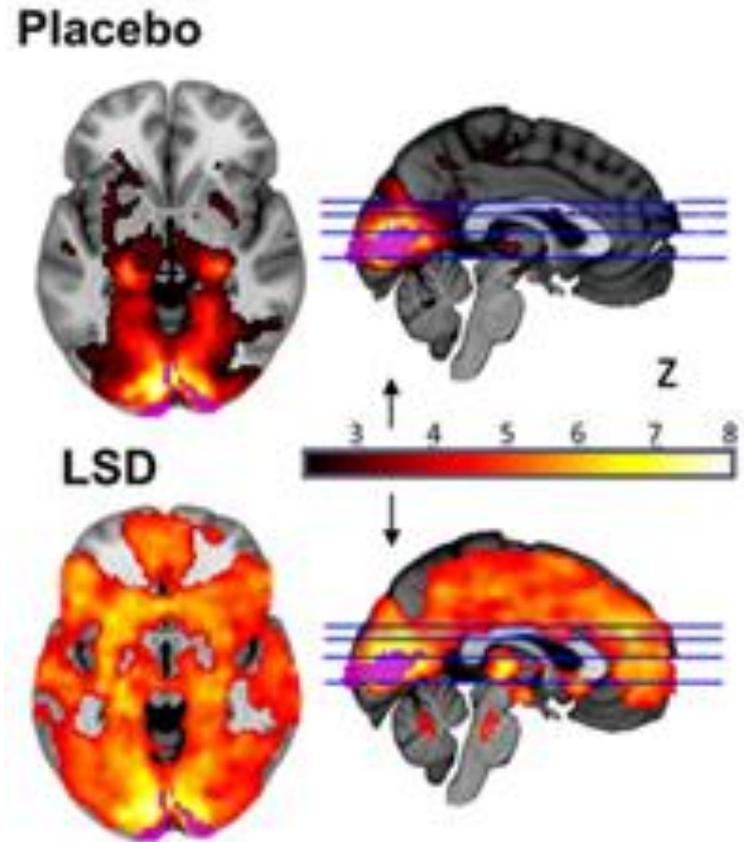
- Research shows that the emergence into consciousness and symbolic thinking might be linked with use of stimulating psychedelic drugs.
- If analyzed the first cave art shows that its been done in a altered state of consciousness. It is likely that those were visions stimulated by psilocybin(magic mushrooms).

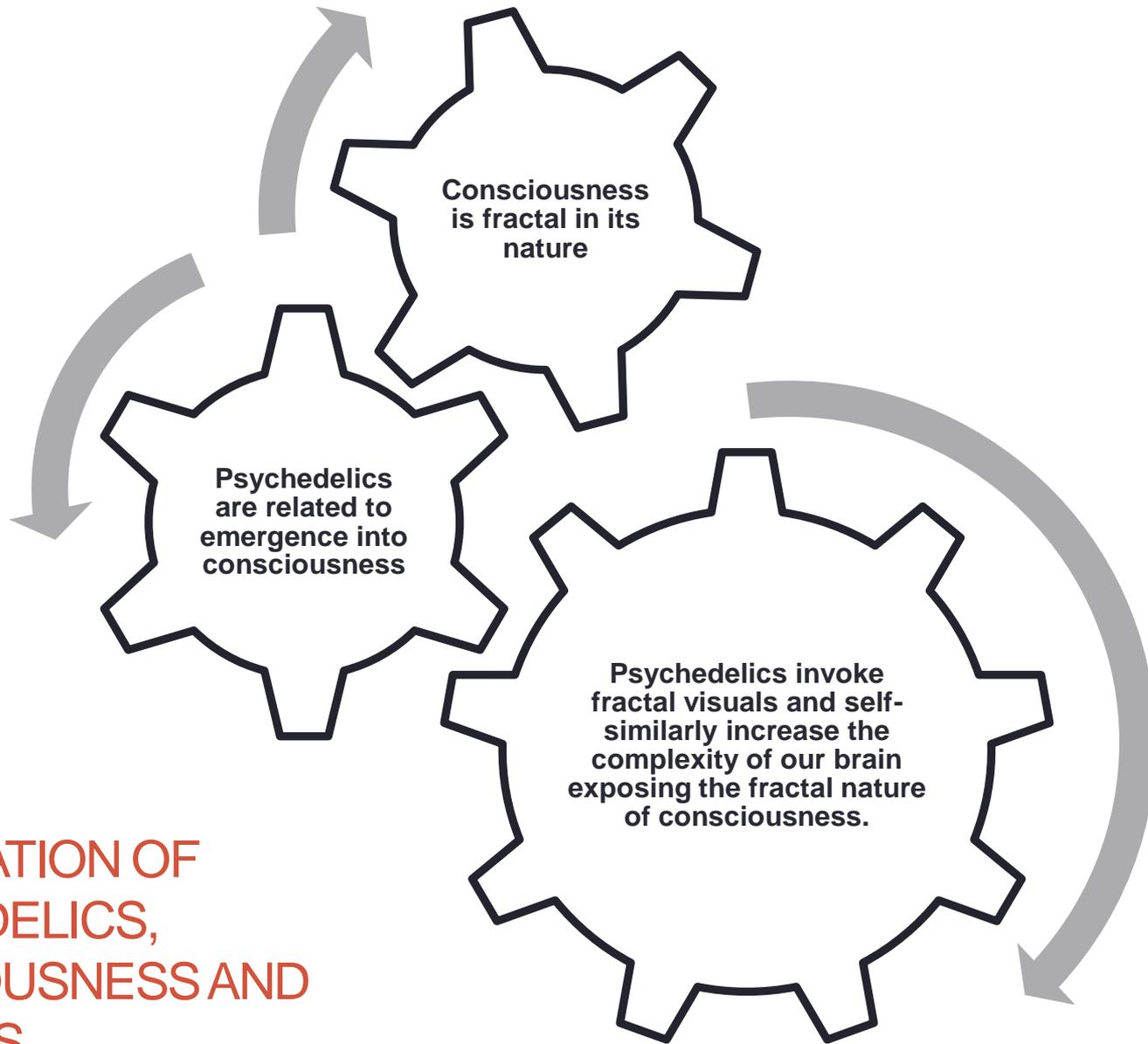


“Mushroom man” found in Shamanism  
(Tassili-n-ajjer, Algeria)

# THE RELATION OF PSYCHEDELICS, FRACTALS AND CONSCIOUSNESS

Psychedelic drugs, such as psilocybin and LSD, represent unique tools for researchers investigating the neural origins of consciousness. They increase the complexity of brain activity and moving the system towards a critical point between order and disorder, creating more dynamic and complex patterns of neural activity similar to fractals.

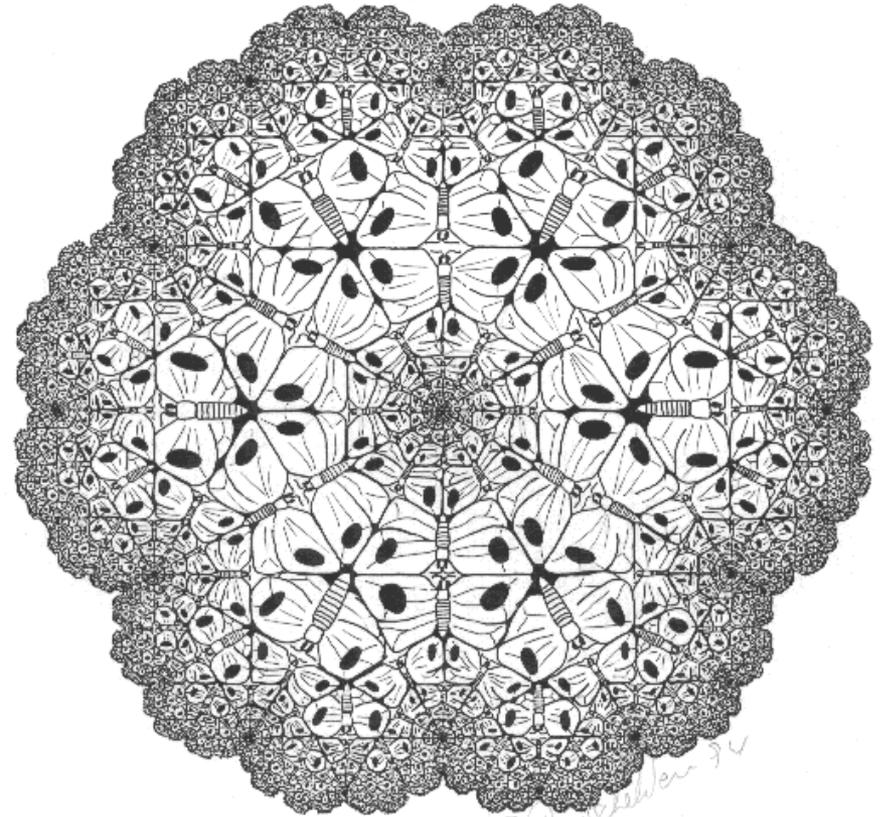




**THE RELATION OF  
PSYCHEDELICS,  
CONSCIOUSNESS AND  
FRACTALS**

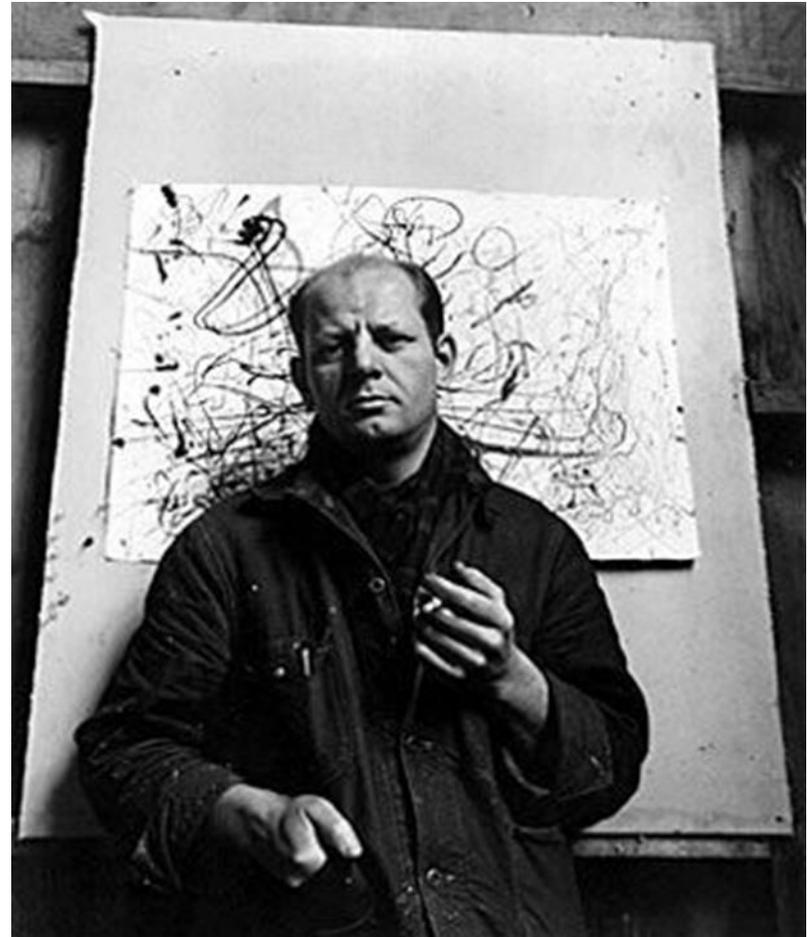
# FRACTALS, PSYCHEDELICS AND CREATIVITY

Humans appear to be especially well-adapted to processing fractal patterns with D values between 1.3 and 1.5 - this tends to reduce physiological stress. Psychedelics push the brain to see those D values. Stress reduction and increased fractal visual activity mixed with an instant drug induced euphoria lead a human's mind to a point where it is able to be exceptionally creative.



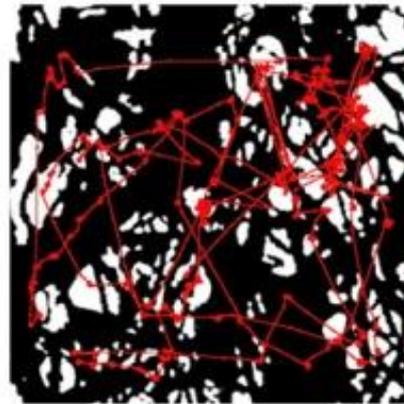
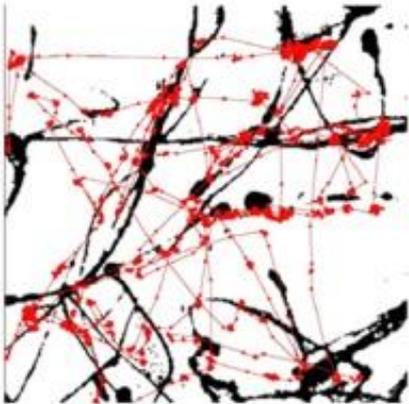
# JACKSON POLLOCK

**Paul Jackson Pollock** was an American painter and a major figure in the abstract expressionist movement. He was widely noticed for his technique of pouring or splashing liquid household paint onto a horizontal surface, enabling him to view and paint his canvases from all angles. He was the leading force behind the abstract expressionist movement in the art world.



# JACKSON POLLOCK

In Jackson Pollock's drip paintings, as in nature, certain patterns are repeated again and again at various levels of magnification. Such fractals have varying degrees of complexity (or fractal dimension). Fractal patterns may account for some of the lasting appeal of Pollock's work.



# JACKSON POLLOCK

**Jackson Pollock** wasn't able to know what fractals are at the time but it is clear that they are present in his work. It may even be said that his work's appeal is found in that fact. He did imply on multiple occasions that he took dosages of certain psychedelics in his studio before painting, and maybe they were the underlying factor of such variety of fractals that can be noticed in his work.



In the brain, as in the heart, “just right” means just fractal enough to walk the line between chaos and order, and Jackson Pollock the artist that was able to make masterpieces that are “just right”.

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**REFERENCES:** [HTTP://NAUTIL.US](http://nautil.us)  
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