

Fractals

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Description

- ▶ In mathematics, a fractal is a [[Self-similarity|self-similar] or not] subset of Euclidean space whose fractal dimension strictly exceeds its topological dimension.

History

The history of fractals traces a path from chiefly theoretical studies to modern applications in computer graphics. A common theme in ancient traditional African architecture is the use of fractal scaling, whereby small parts of the structure tend to look similar to larger parts. According to Pickover, the mathematics behind fractals began to take shape in the 17th century when the mathematician and philosopher Gottfried Leibniz pondered recursive self-similarity (although he made the mistake of thinking that only the straight line was self-similar in this sense).

Application

- ▶ In physics, fractals naturally arise when simulating nonlinear processes such as turbulent fluid flow, flames, clouds, and the like.
- ▶ in radio engineering to create fractal antennas.

And also in medicine, computer science and many other fields

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