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Fractals

Although fractals were officially born in the eighties, some strange curves, surfaces and other mathematical objects having fractal properties were known since the end of the XIXth century. Nowadays, fractals appear almost everywhere, serving to model some situations that cannot be well represented by traditional mathematics. Fractals are in fashion, and many people is attracted and captivated by their strange properties.

This talk, given in a light style, contains three parts: first, it describes how fractals arose to model natural shapes, from ancient times to Mandelbrot; second, it shows a few but significant applications of fractals in diverse fields of real life, such as biomedicine, economy, and environmental management; and third, it explains in some detail how to use fractal formulas and transformations to create true artworks, and hence how to exploit complex numbers and formulas to express feelings and sensitivities.