



**Cosmic Birth**  
**Artwork (Poster 50x70)**

**Topic: Art, Digital Art, Graphic Design, 3D, Procedural Generated, Hybrid Fractal**

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**Abstract**



Since the dawn of time we took from the world around us visual grammars to express ourselves, our thoughts and needs but also to impress and share a feeling. Crawling to reach others, driven by our inner search for beauty, artistic practice is what makes us humans. Whether we look at geometric patterns carved into stone, typical of the Paleolithic art or we jump forward in time to the first Oscillons made by Ben F. Laposky in 1953, Generative art has always been a distinctive artistic experience that connected us, our tools, math and nature together.

Being fond of Graphic Design and digital practices I wanted to learn how contemporary software-driven generative art can approach fields like concept art, illustration and visual design, how the endlessness of natural-like fractals could be used in new solutions. Thanks to our modern techniques and tools used within a generative context we can achieve communicative and artistic solutions never seen before, allowing us to exploit ordered and disordered systems both in 2D and 3D dimensions to explore new ideas and concepts.

This is a piece I called "Cosmic Birth". It was achieved with a 3D hybrid fractal and 2D post-production. 3D fractals are a

range of chaotic equation-based objects usually derived or formed from the Benoit Mandelbrot set. The set can be visualized in two different "pure" 3D visualizations that inherit the same characteristics of the mathematic equation: the Mandelbub (discovered by Daniel White and Paul Nylander in 2009) and the Mandelbox (discovered by Tom Lowe in 2010). The hybrid fractal is a 3D fractal presenting both of those two parameters combined in different ways that can "grow" into an infinite number of ways and combinations. This generation and transformation is called Mandelmorphosis. This is the technique I used to generate a fractal "cloud" of matter around a central point of light in a 3D space, resembling a star emerging from a Nebula in a beam of light.

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**Key words:** 3D, Fractal, Hybrid, Light, Cosmic, Star, Universe, Pathos, Ray, Generative, Digital, Art, Mandelbub

**Main References:**

Jim Plaxco art

Philip Galanter's papers

Fractal Forum (<http://www.fractalforums.com/>)