



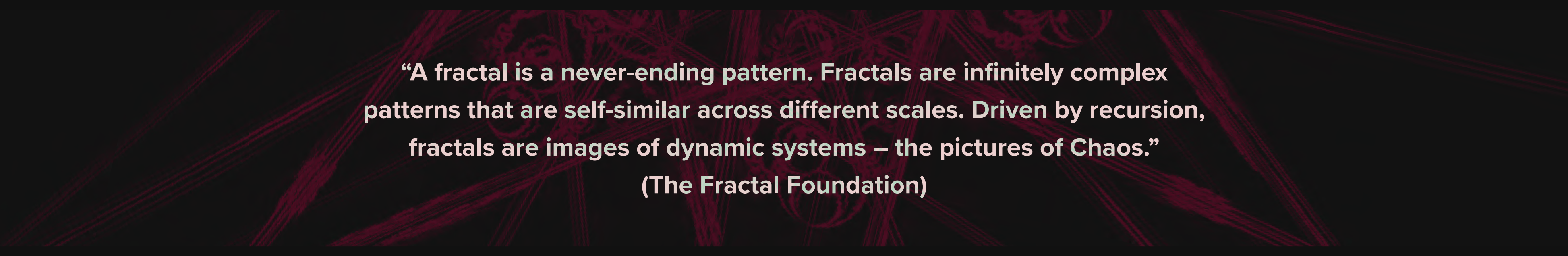
RECURSIA

Digital Art Series 002
Zoe Allgaier

Zoe

Recursia

Recursia is a digital exploration in fractal geometry. In my first art series – *Metalheart* – I learned how to create complicated digital graphics using metallic shapes, grids, and textures. While doing research to improve the series stylistically, I discovered fractal art and learned how to create fractals. In *Liquid Geometry*, and *Depthcore* (designs in the Metalheart Series), I used a fractal as the base layer of each design. As I continued incorporating fractals into designs, I felt the need to embrace fractal art as its own style. So, I've created a new art series dubbed *Recursia*.



“A fractal is a never-ending pattern. Fractals are infinitely complex patterns that are self-similar across different scales. Driven by recursion, fractals are images of dynamic systems – the pictures of Chaos.”

(The Fractal Foundation)

Historically unprecedented developments in digital computing and graphics have allowed for scientists, mathematicians, and artists to create and understand fractals in new ways. When mathematician Benoit Mandelbrot first gained access to IBM computers in 1980, it allowed him to create and display fractal geometry for the first time. This led to the discovery of the Mandelbrot set, arguably the most influential and popular visual in fractal geometry. But fractals aren't just pretty pictures – the discovery and implementation of fractals has led to incredible developments in physics, engineering computing, and art (to name a few).

The Creative Process

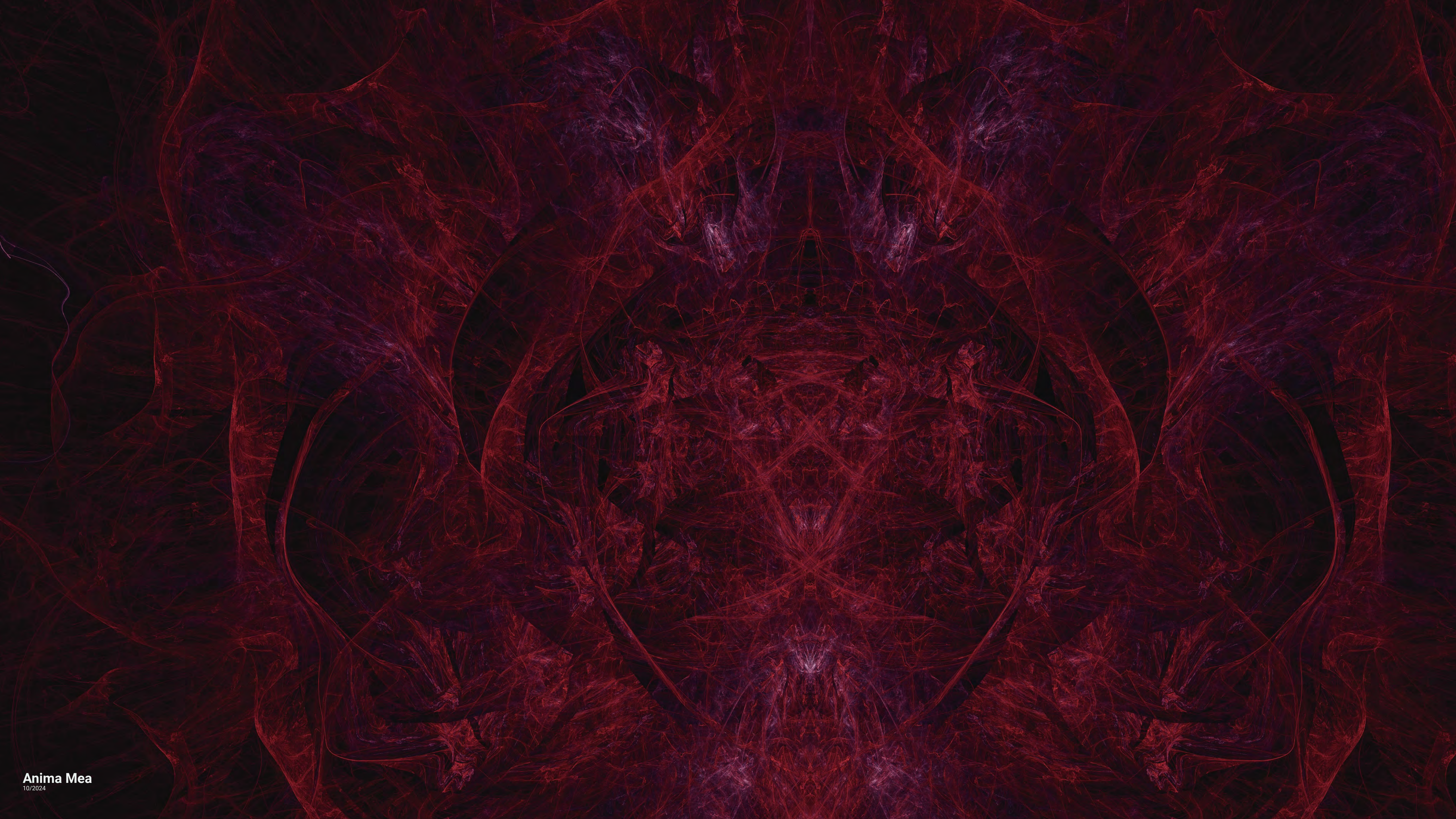
Fractals are generated by a specific type of math, so specialized software is required to create a fractal. There are a few options scattered through the web, but only one I've found suits my personal style. Using the software I set parameters for the mathematical style of fractal, adjust the position and rotation (because they are generated in **3D space**), and continue to make edits until it looks aesthetically pleasing. Once I'm happy with it, it gets rendered as an image or a video file.

If the fractal is saved as a graphic, I import it into Photoshop where I edit colors and contrast, add layers, and crop. If the fractal is saved as a video file, I use the same process, but in Adobe Premiere Pro. I do this because, on their own, the original fractal exports aren't as visually cohesive as they could be. Also, I'm a perfectionist.

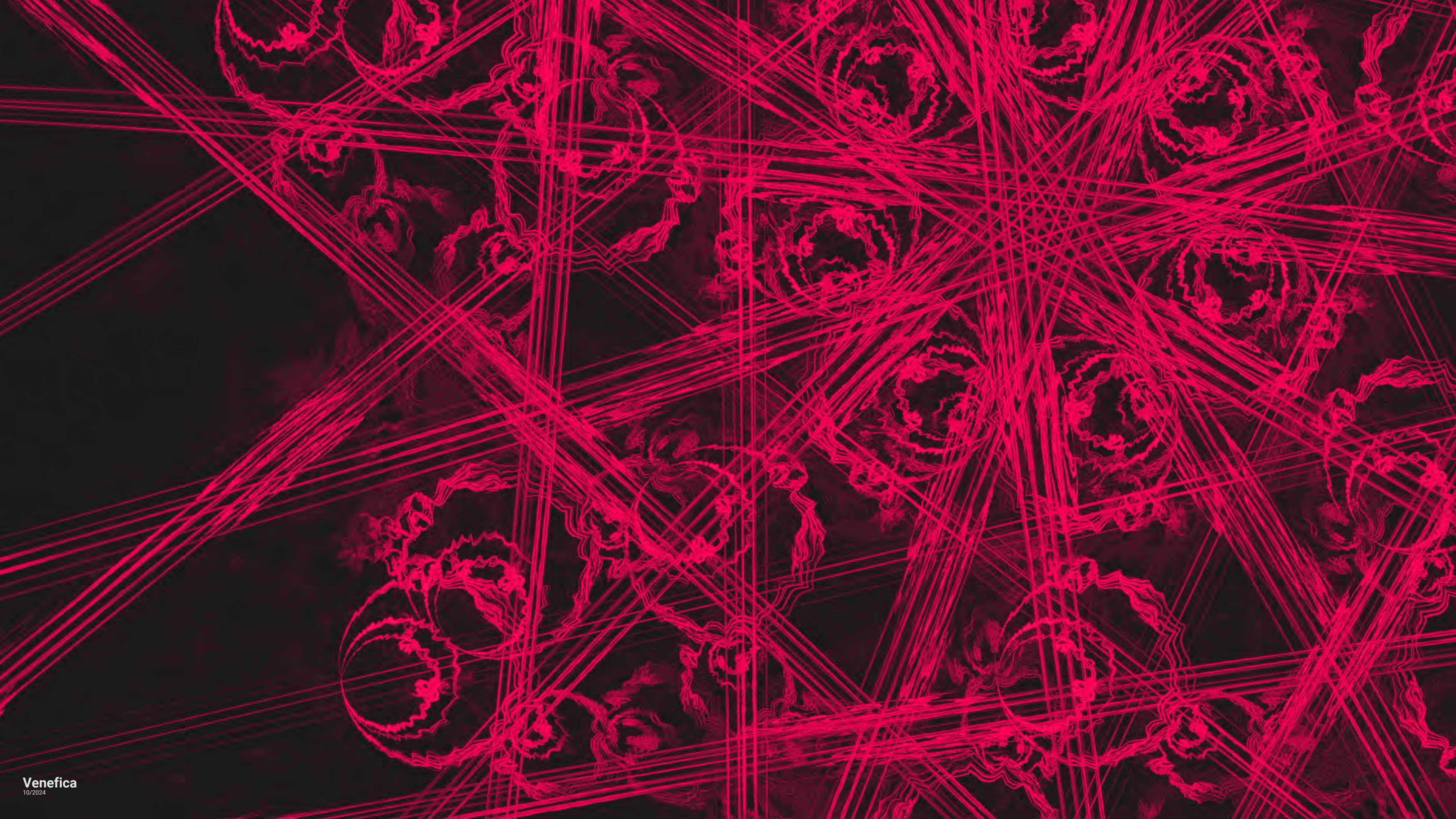
The Inspiration

Recursia is visually inspired by artwork and mathematical visuals from the late 90s and early 00s. Because this was a time of digital experimentation, artists felt they had more creative freedom to create works that might not have been necessarily “good,” but pushed the boundaries of what art is and represents. This phase of digital media has led to some of the most interesting visual styles that redefined what digital art is and what it could be. As a graphic designer, I’m interested in picking apart these trends and reforming them in my own personal style.

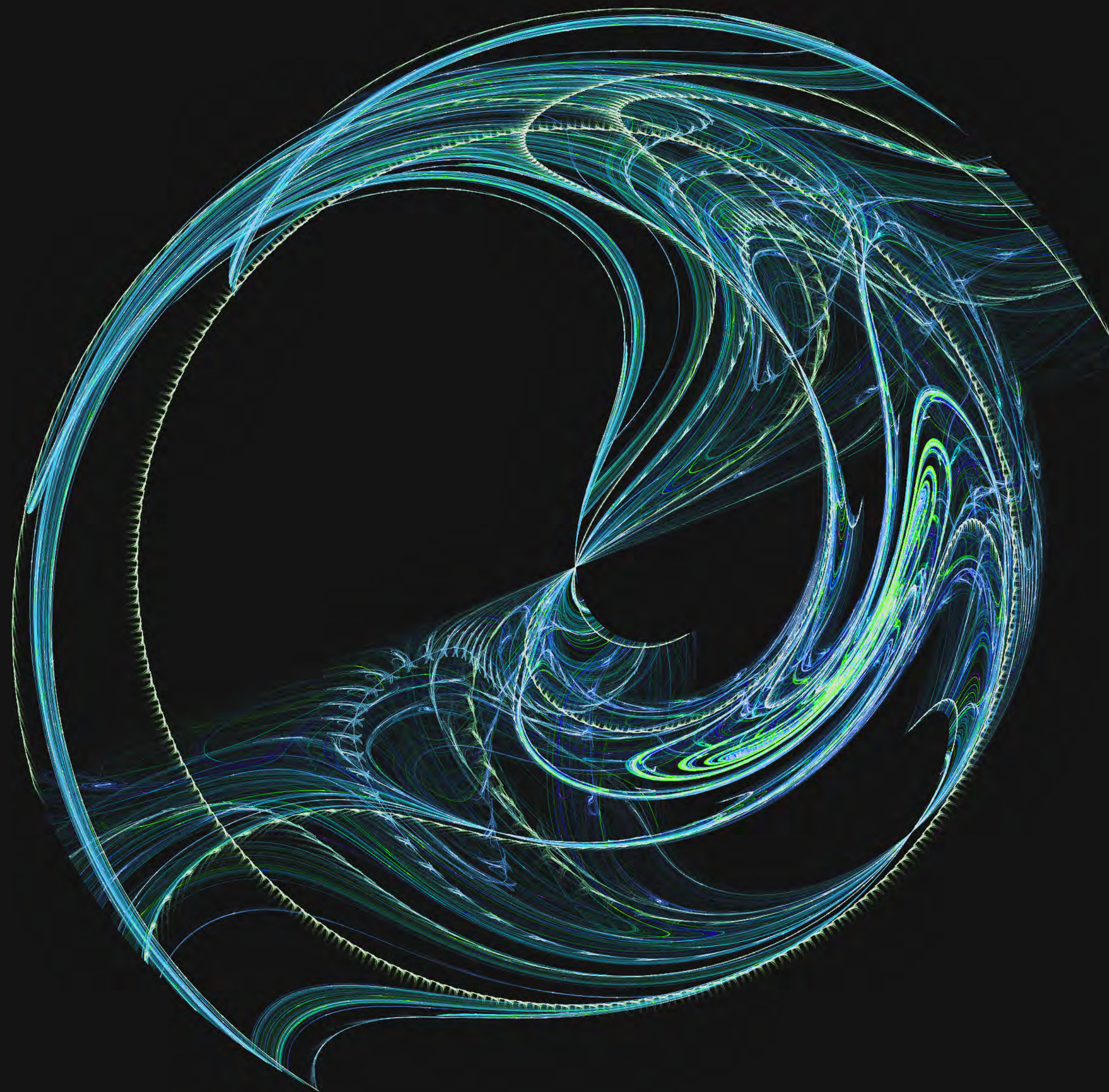
I became infatuated by fractal geometry because of what it represents, not just the way it looks. Fractals are **everywhere**. They compose the branches of trees, the flow of galaxies, and our DNA. There is an inherent beauty within fractals because they are tied to the very structure of the universe herself.

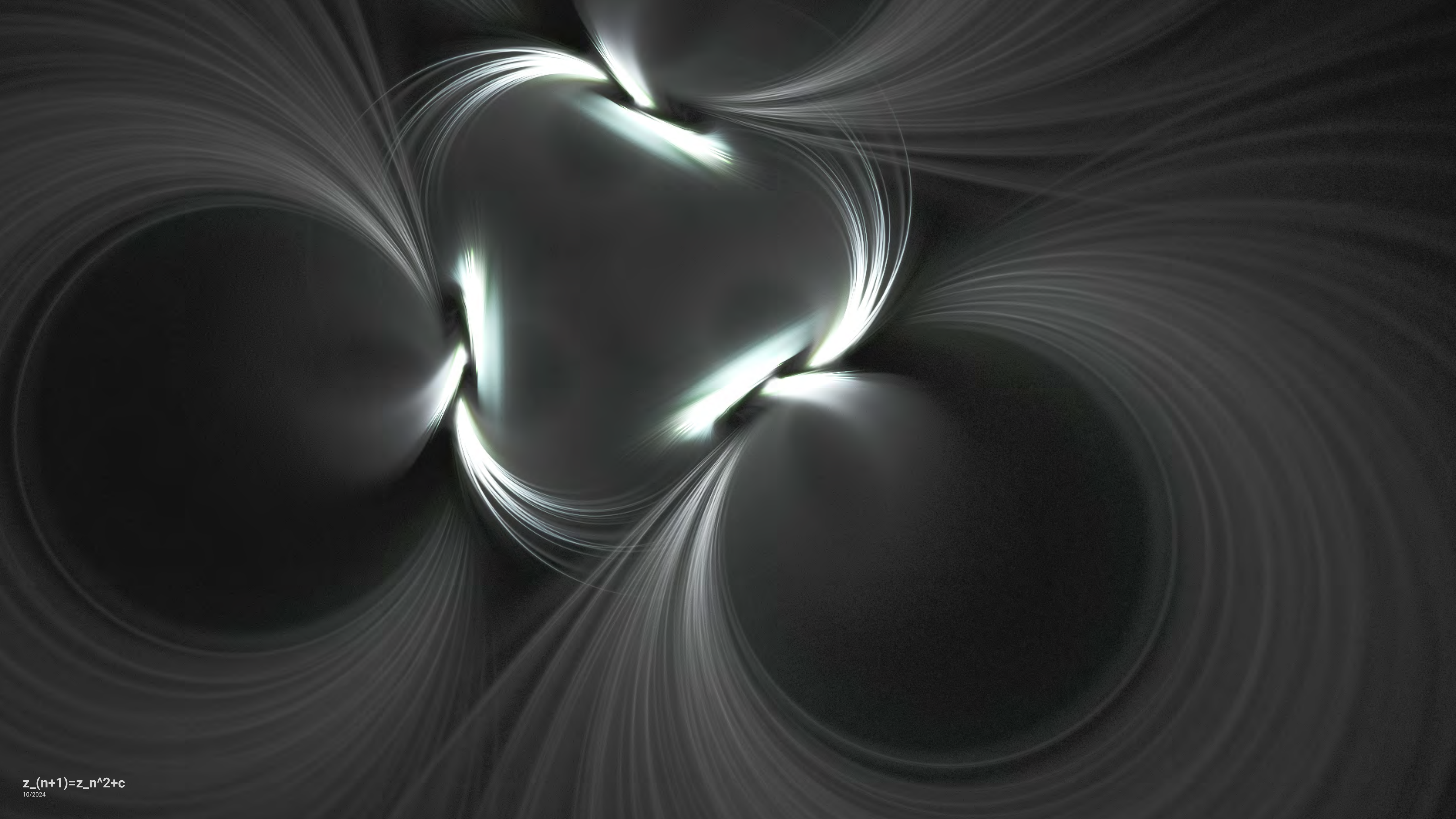




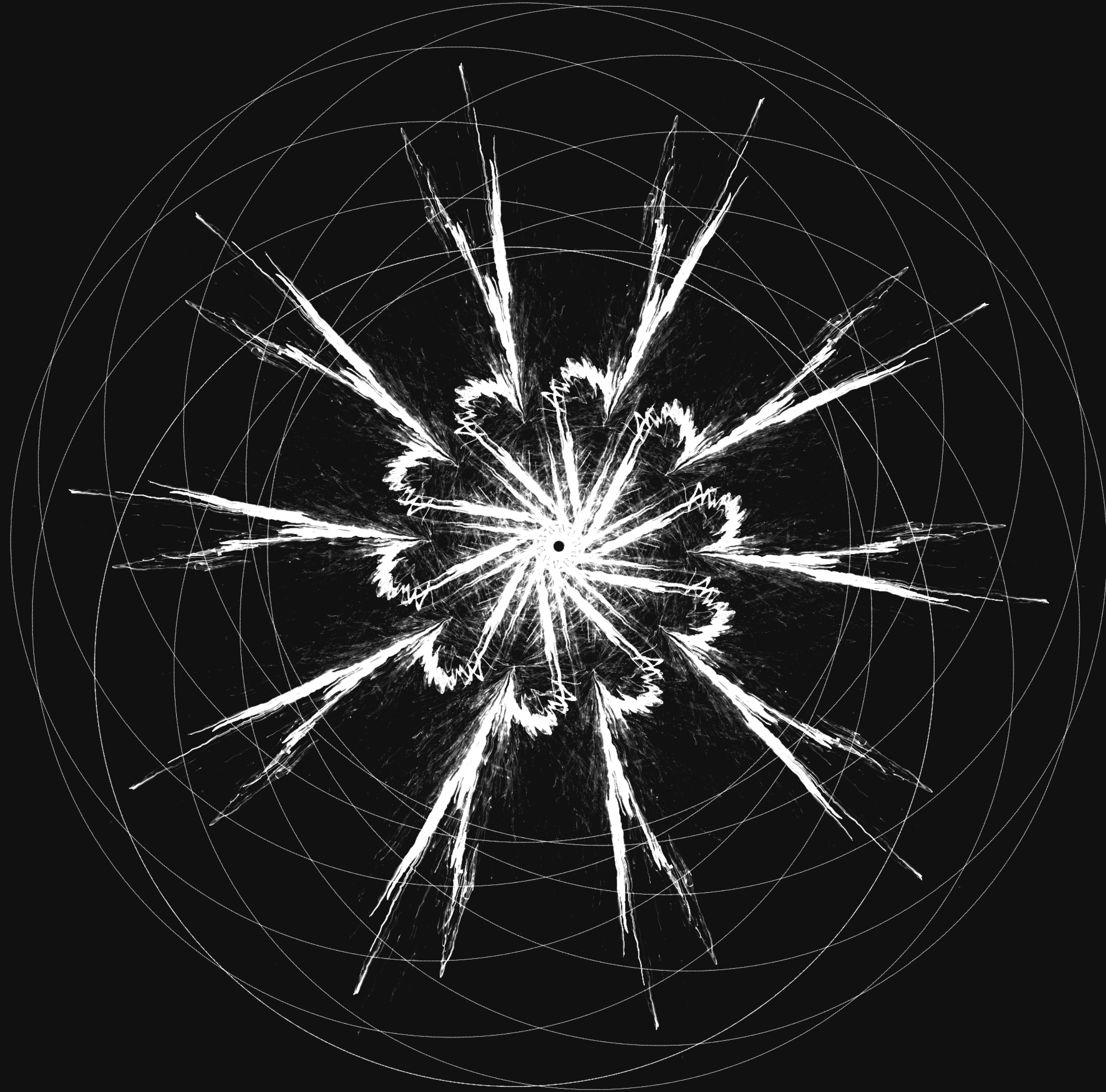








$z_{(n+1)}=z_n^2+c$
10/2024



The background features a complex, abstract pattern of thin, overlapping lines in shades of blue, teal, and green. These lines swirl and curve across the black canvas, creating a sense of motion and depth. The lines are most concentrated on the right side and form a large, sweeping arc on the left.

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