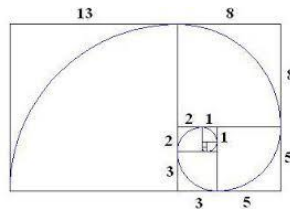


Expressing the Fractal: Songs of Nature

A Photographic Exhibition by Kelly Seidl

Early on in my formal art training, I learned about the golden spiral. The golden spiral has many synonyms, including the golden mean, golden ratio, golden rectangle, and the divine proportion. These are formed by the Fibonacci sequence, or PHI, the ratio of 1:1.618... You may have heard of this in The DaVinci Code, or when learning about how seashells form, pinecones grow, or how bees mate.

Photographers tend to follow the “rule of thirds” for composition, which is similar to the golden spiral. The idea is that the ratio becomes “golden” when the sum of its parts follows the same ratio as its larger 2 parts. For example, $1+1=2$, $1+2=3$, $2+3=5$, $3+5=8$, $5+8=13$, $8+13=21$, and so on. Dividing up space into these measurements yields the golden mean, which is often illustrated as below:



Artists have been using this compositional formula for centuries, which can be seen in Hokusai’s The Great Wave, the Greek Parthenon, and was a favorite tool of DaVinci’s, as seen in the Mona Lisa and Vitruvian Man. Art, music, architecture, and even advertising celebrates this formula.

In 1979, Benoit Mandelbrot discovered how to apply this formula in computers, which evolved into his theory of fractal geometry. It is the theory of “roughness” in nature, how self-similar patterns in scaling are defined. When you compare an image of a brain cell to galaxies in the universe, you can see the formula expressed on different scales. From DNA molecules to the proportion of our hands, shorelines, and weather events, this pattern is found everywhere around us.

I have been fascinated with this concept for the past 12 years, using it as a guidepost to better understand our reality. As an artist, I have sought out ways to express this truism in several mediums, but photography in nature has been one of the most honest ways to record this phenomenon.

You can see the rough fractal edges in the gnarly bark of a 100 year old tree, the jagged edge of a hot spring, and in a lightning bolt that rips through the sky. It is my belief that the fractal formula is what defines the unseen plasma between us, the space between any two objects. We get a glimpse of this formula when the elements express this, in water, fire, earth, and air.

This collection of work encompasses my recordings of these findings, as I have explored pockets of beauty found in Wisconsin and across the country. The visual rhythm inherent in these images are songs of nature gifted to us. I hope you as you view this body of work, you discover and feel this rhythm, and carry this song with you in your heart as you carry on about your journey in this beautiful world.