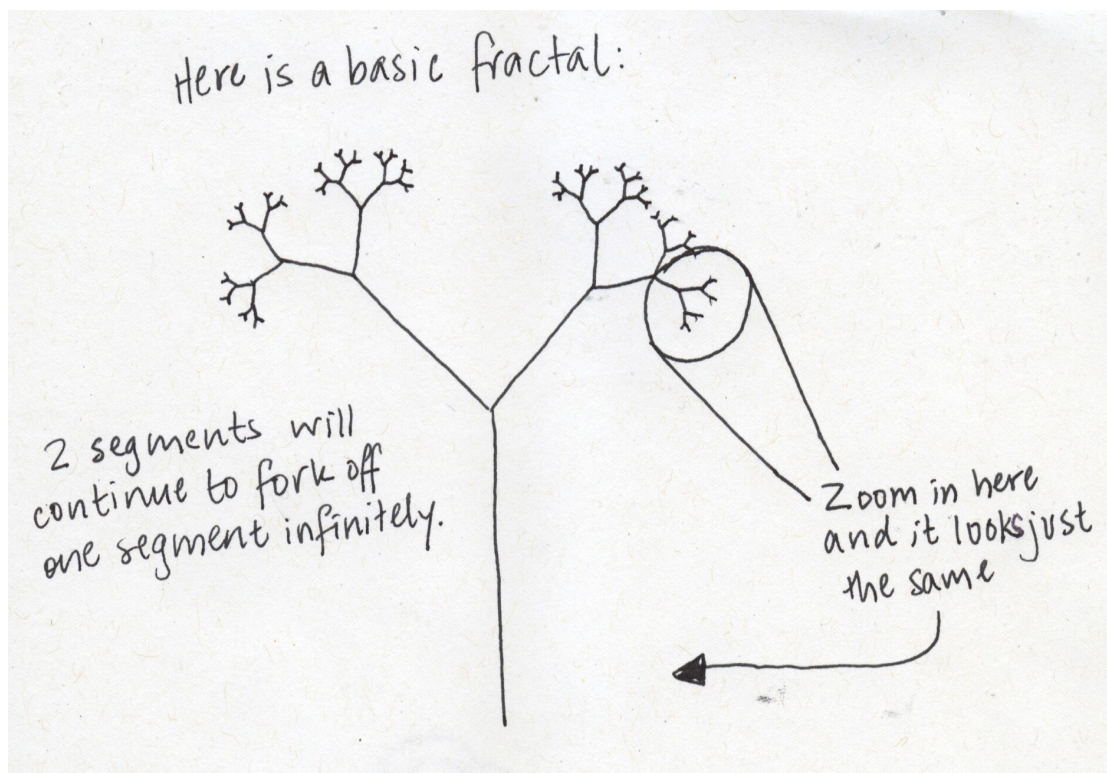
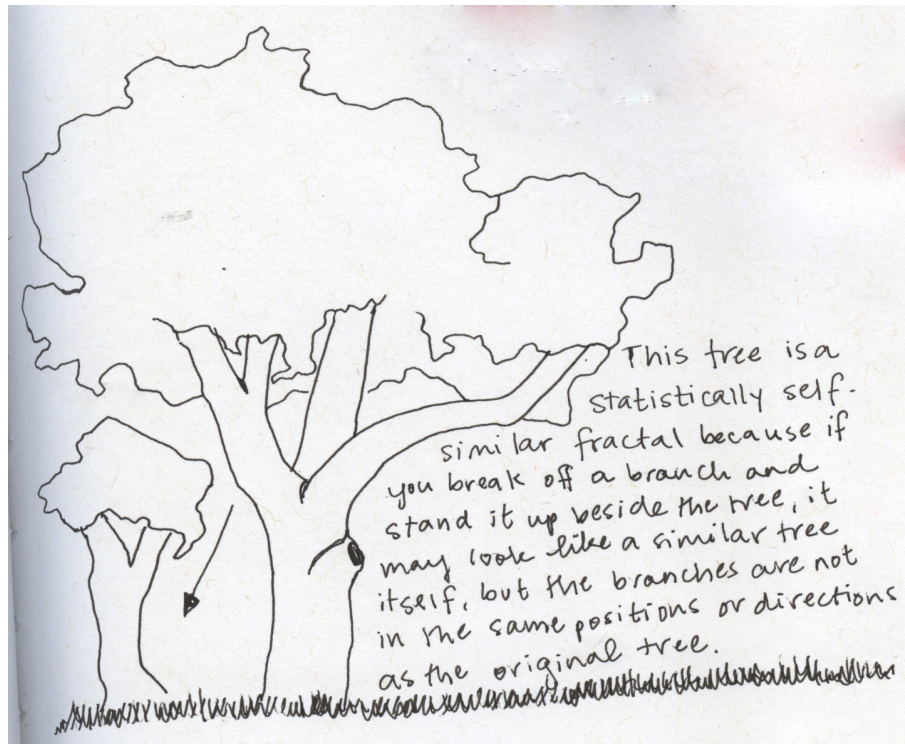


Fractals explain the world to me in a way I have been searching for over the past year. They are the bridge between spirituality and science; something I knew existed, but could not point to for others to see. My confidence in the deep knowledge and feelings humans possess drove me to find a kind of proof that cannot be denied. Fractal science proves our spiritual inclinations to be grounded in reality, as we are willing to accept it. Spirituality is fractals. Fractal science roots shamanism, Taoism, yoga, chi, feng shui, the healthy feeling when outdoors, auras, enlightenment, and more (everything) firmly in science, a lens of the world that humans trust. I can now understand what I always believed.

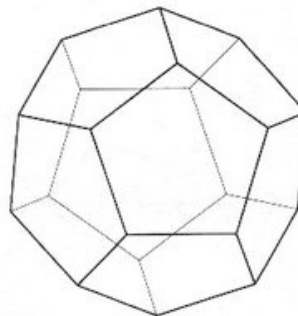
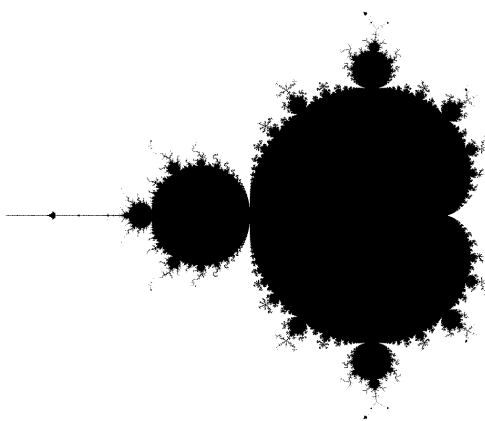
The knowledge of fractals has brought me closer to accepting the world as it is. I do not resist it as much, and at times, not at all. During those times I am fully present. The power of fractals is multiplied with awareness of them. After discovering fractals through my Final Project research, I hope to use my life to teach about fractals and their role in the universe. I believe this knowledge put to use will improve the lives of all creatures and the planet. I believe humans are on an evolutionary course towards understanding the universe in fractals, and thus towards peace.

Dan Winter, a fractal scientist and enthusiast, describes fractals as “coming close to the principle of life itself.”¹ Fractals are patterns that repeat themselves infinitely in both directions, growing increasingly larger as well as smaller. The defining characteristic of fractals is self-similarity. This means that if you take a piece of a fractal, that piece will resemble or replicate precisely, the whole fractal.





A fractal that does not replicate itself precisely is a statistically self-similar fractal. Fractals that are completely self-similar are “a way of seeing infinity,”² as Benoit Mandelbrot, the first fractal scientist, said. They also represent chaos. Chaos, defined scientifically, takes form as “deterministic nonlinear dynamic systems.”³ A deterministic system is a system that is predictable, but nonlinear describes systems that are unsolvable and thus unpredictable.⁴ Chaos is disorder within the boundaries of an order specific to the system. Fractals enable scientists to look at chaos and determine where the predictability breaks down.⁵ Fractals are systems with fractional dimensionality, or existing in fractal dimensions, meaning their dimensions extend beyond the first, second, and third.⁶ This makes sense because fractals extend infinitely and therefore the three dimensions are not applicable to them.

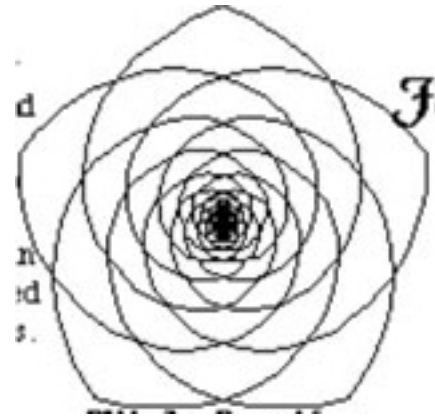


The figure above and to the left⁷ is a well known two-dimensional fractal formulated by Benoit Mandelbrot. To its right is a dodecahedron.⁸ A dodecahedron is a fractal, as it would appear in three dimensions.⁹ A fractal’s structure draws charge to its center. Attracting charge is what gives living things life; therefore anything that is alive is constructed from fractals.¹⁰

The universe is a fractal made of fractals. Any kind of pattern can be a fractal, including intervals of time, the positions of things within an area, behavior, the evolution of something, and physical objects. In other words, any kind of system can be a fractal. Nature is made up of fractals. Earthquakes, lighting, pinecones, trees, ferns, the positions of trees in a forest, the distribution of acid in a rainfall, and coastlines are all examples of fractals (as is everything) in nature. The rhythm of heartbeats, the development of AIDS, the circulatory system, and bronchial tubes inside lungs are examples of fractals in the human body. The chaos in the ebb and flow of economics and crowds make them fractal too.¹¹ Because the universe is made of them, fractal science can be applied to everything for an estimated prediction of the future course of things, as well as to better understand the universe itself.

Fractal science can be similarly applied to spirituality as to the physical world. Spirituality is universal, innate, and has been within us since our primal ancestors and beyond. Spirituality has always been the thing we can't explain. We used religion as a means of understanding our creation, but eventually evolution took its place. As we delve deeper into the science of the world, the more we are able to explain and the more our spirituality becomes focused in a single direction: why anything exists at all. With science, we may discover how the universe began, but it will never tell us why. With science, we uncovered the mystery of Nature: fractals, but we do not know *why* they exist. Spirituality at its very core is the search to answer "why?" Fractals explain the deep and unsourced knowledge that is our broader sense of spirituality. This reveals the fundamental interconnection of fractals and spirituality.

Enlightenment can be attained and maintained by understanding it on a scientific level. The feeling of enlightenment or bliss overcomes us when our electric fields, our auras, are in a rose formation (as shown in the image to the right). This is "being fractal."¹² The feeling of enlightenment is not our body rewarding us for something like the satisfaction after a long awaited meal. Enlightenment *is* being fractal. It is a state of nonresistance to what is, or the alignment of yourself with reality. You are completely present, so that time does not exist. During moments of being fractal, disease and aging disappear.¹³ The rose formation of our electric field allows us to draw in charge and thus grow or heal. When we are completely fractal, we can inhabit our fractal surroundings.¹⁴ We are not trapped in our minds and bodies. When Siddhartha meditated during his years in the woods, he could leave his body and enter rocks, trees, animals, and other people. Shamans of different cultures who have connections with specific animals may transform into or travel as that animal.



One of the ways it is possible to become fractal is to surround yourself with other fractals (Nature), to eat living material free of any unnatural elements, and to practice movement that draws charge (yoga, tai chi).¹⁵ After some experimentation, it was found that when the energy fields exuded by naturally grown apples were compared to those of chemically grown apples, the chemically grown apples were close to poisonous.¹⁶ Our joy at and need for being outside explains biophilia, the hypothesis that humans have a

natural love of other living systems.¹⁷ We feel love or bliss when outside because our fractality is being restored. Doing what you love fuels growth and healing in our bodies and psyche.¹⁸ This growth is the attraction of charge, which creates gravity. Human attention is an electric fractal, and focused on something, it compresses the electric charge of that thing.¹⁹ This explains how shamans cure people or make clouds rain. Doing what you love recreates your aura into a fractal and thus fuels its energy.

Fractals science comes up in various religions and practices. Feng shui is the placement and arrangement of structures according to the flow of chi. Dan Winter explains the connection between arts such as feng shui and modern day science: "Once we understand the fractal science of life and we look at ancient science like feng shui, we can... understand what they've been talking about as chi... is actually the ability to attract charge nondestructively to center."²⁰ Feng shui is an example of human's awareness of the force that is fractals, without knowing the science of them. There are many examples of cultures that understand this phenomenon. A "dreaming track" in Aboriginal culture is a path traveled by creator beings. These dreaming tracks were recently uncovered as lines of magnetic conductivity.²¹ Aborigines detected these lines of energy and interpreted them as sacred. In the Tao te Ching,¹ Lao Tzu advises his followers to "hold on to the center,"²² the center is where all charge collects. The center of things is the most powerful and life giving, a "sacred space." People who sleep at the center of Prague are prone to lucid dreaming because the city was built in a fractal rose formation. Again in the Tao te Ching is the phrase, "practice not-doing, and everything will fall into place."²³ Chaos self-organizes. Forcing something or trying too hard will not always prove successful. It is the nature of the universe for things to resolve on their own. Animism is the belief that all living creatures, including animals, plants, and sometimes inanimate natural objects, have spirits within them. It is people recognizing the electric fields of all living things and the fractals they are made of. Through the expression of spirituality, humans have displayed their buried awareness of fractals for thousands of years.

One scientist and doctor, Konstantin Korotkov, specializes in measuring people's auras. He measures his patient's energy fields for the purpose of diagnosis and research on levels of energy and the afterlife. He found that people who were highly spiritual had stronger energy fields. The more positive the energy was, the stronger the field. Korotkov traveled the world looking for places with high levels of energy and discovered that those areas were places of worship. Korotkov believes that, "if we include more and more people in this collective spiritual process, it would allow us to change the consciousness of the human kind."²⁴ Our energy fields have a great effect on those of our surroundings and especially other human beings. When humans utilize their ability to alter and determine the quality of their inner, this positive change reflects onto the outer and thus onto others. Korotkov has also studied and performed experiments concerning death and afterlife. He found that after a person dies, their energy field undergoes a process of separation from the body lasting a number of days through a cycle of transformation of energy. By measuring the electric field of a dying person, he discovered that the field

¹ The Tao Te Ching is a book of the teachings of Lao Tzu, the founder of Taoism. Taoism is a Nature-based philosophy that originated in Asia. Its symbol is the yin yang, representing balance between opposites.

travels away from the body to the closest place that is the most fractal. The part of a human that detaches from the body after death, which is separate from influence, body, genes, and evolution—the soul—is fractal.

Fractals are spirituality because they are the explanation of human's universal and innate subconscious understanding of the world. "This new fractal science of life... could be the solution to virtually all of the major mysteries of science and life and the problems of culture," exclaims Dan Winter in his video lecture, "Fractality and Life Force." Because the world is made of fractals, they become the answer to the countless issues of today. Fractality means sustainability. Using our knowledge of fractals, we can design systems and structures, goods and services, which imitate the cycles and transformations in Nature to reduce global warming. Humans can understand what constitutes their well being and bliss and then how it is sustained through diet, environment, and charge-attracting movement. Architects can formulate and create buildings made from biological materials in formations that attract charge. These structures can be used in agriculture to produce healthy food and schools to increase attention and growth. The use of fractal science will expand throughout medical science in predicting and diagnosing disease. This is our future, because chaos self-organizes. We are chaos, and we will organize into a fractal community using our newfound knowledge in the spirituality of fractals.

TERMS:

Dynamic- the capacity to change

System- something that changes with time

Deterministic system- a system that is predictable

Chaos- "the occurrence of aperiodic, apparently random events in a deterministic system" (16, *Introducing Chaos*); within the order is chaos; chaos is a nonlinear deterministic system (nonlinear implies that the system is unsolvable and thus unpredictable)

Aperiodic- behavior repeats unpredictably within the given order of the system

Periodic- behavior repeats exactly within fixed intervals of time

Unstable- reacting to outside influence

Unstable aperiodic- behavior of the system never repeats itself and reacts to outside variables; behavior is completely unpredictable

Self-organization- when chaos spontaneously organizes into a fractal

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- ¹ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field." *Video Intro* to *RESTORING CENTRIPETAL FORCES: The Fractal Field*. N.p., n.d. Web. 20 Apr. 2013.
- ² Sardar, Ziauddin, Iwona Abrams, and Ziauddin Sardar. *Introducing Chaos: A Graphic Guide*. Cambridge, UK: Icon, 2008. Print.
- ³ Sardar, Ziauddin, Iwona Abrams, and Ziauddin Sardar.
- ⁴ Sardar, Ziauddin, Iwona Abrams, and Ziauddin Sardar.
- ⁵ Sardar, Ziauddin, Iwona Abrams, and Ziauddin Sardar.
- ⁶ Lesmoir-Gordon, Nigel, Will Rood, and Ralph Edney. *Introducing Fractals: A Graphic Guide*. London: Icon, 2009. Print.
- ⁷ "Big Mandelbrots | Complex Projective 4-Space." *Complex Projective 4Space*. N.p., n.d. Web. 23 Apr. 2013.
- ⁸ "BaToCo Barriletes - News." *'BaToCo Barriletes - News'* N.p., n.d. Web. 23 Apr. 2013.
- ⁹ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹⁰ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹¹ Lesmoir-Gordon, Nigel, Will Rood, and Ralph Edney.
- ¹² "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹³ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹⁴ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹⁵ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹⁶ Dr. Konstantin Korotkov: *Seeing the Unseen With Electrophotonics*. Perf. Konstantin Korotkov. *Science and Spirituality*. Supreme Master Television, n.d. Web. 25 Apr. 2013.
- ¹⁷ "Biophilia Hypothesis." *Wikipedia*. Wikimedia Foundation, 19 Apr. 2013. Web. 24 Apr. 2013.
- ¹⁸ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ¹⁹ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ²⁰ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ²¹ "Video Intro to RESTORING CENTRIPETAL FORCES: The Fractal Field."
- ²² Laozi, and Stephen Mitchell. *Tao Te Ching: A New English Version*. New York: Harper & Row, 1988. Print.
- ²³ Laozi, and Stephen Mitchell.
- ²⁴ Dr. Konstantin Korotkov: *Seeing the Unseen With Electrophotonics*.