

**A**

**A Fibonacci Fable**

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A geometric look at the matter of things.

**Little**

**Fib.**

by Steven Ferlauto

Interior full color spread:

Mandelbrot fractal. Computer graphic showing a fractal image derived from the Mandelbrot Set showing a presence of Fibonacci Spirals.

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End paper:

Spiral galaxy. Computer generated image.

sakkmesterke/Alamy Stock Photo

A Little Fib, A Fibonacci Fable  
A Geometric look at the matter of things

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*"Where there is matter, there is geometry."*

–Johannes Kepler

**A**

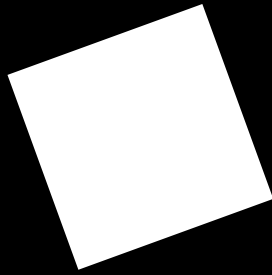
**A Fibonacci Fable**

A geometric look at the matter of things.

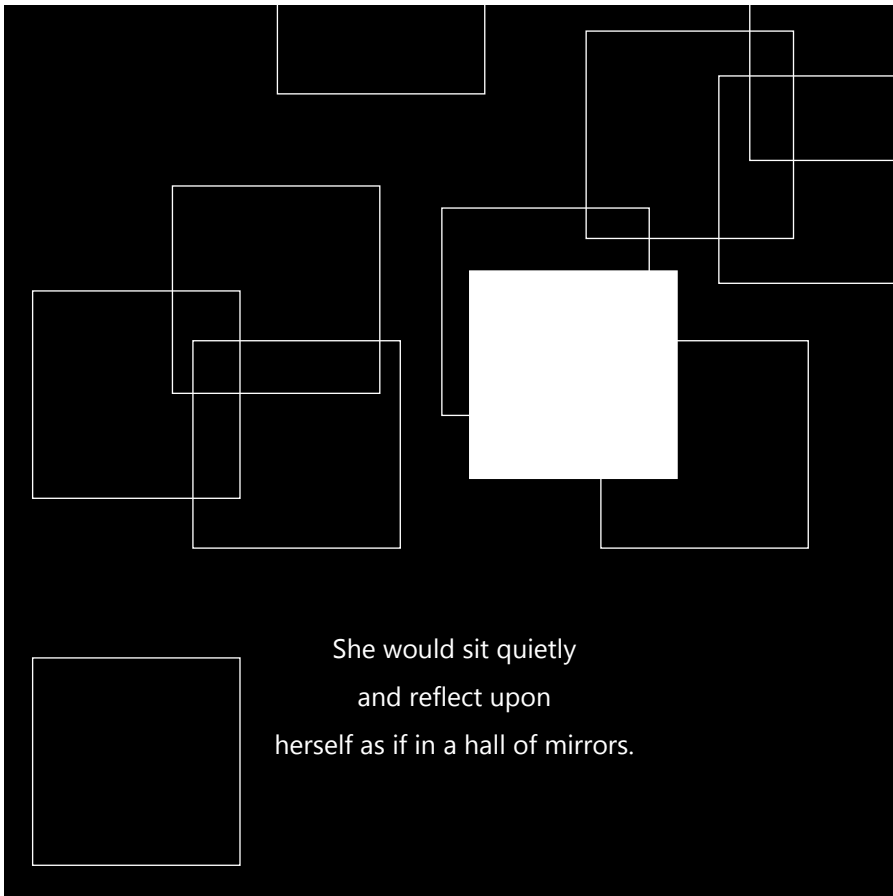
**Little**

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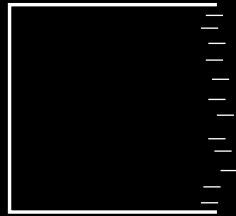
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Once there was a square who was all alone.



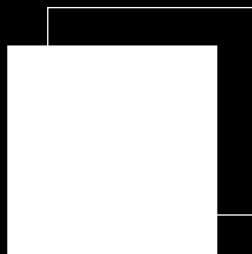
She would sit quietly  
and reflect upon  
herself as if in a hall of mirrors.



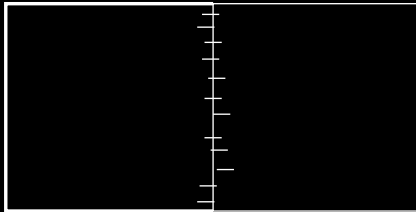
One day Square felt an edgy sensation  
along one of her sides.

Something perhaps from another  
page or dimension.

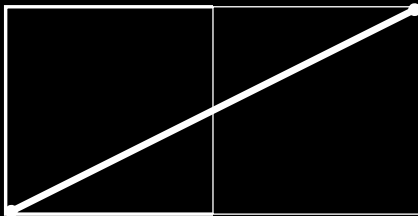




Square felt this unusual sensation was triggered by  
a strange shadow hanging about her.



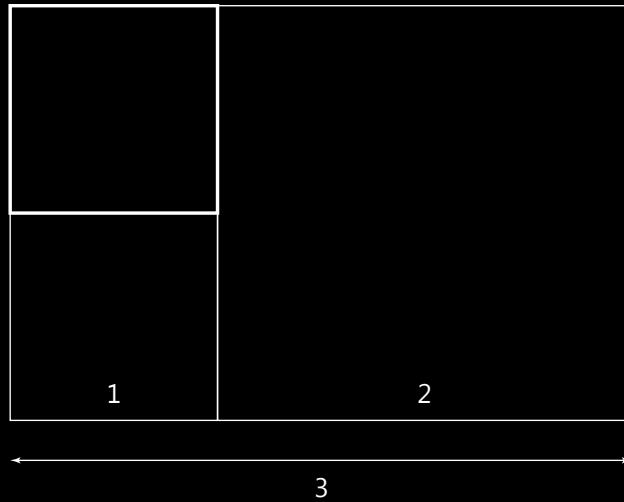
It seemed that when Square  
sided up to this shadow a synergistic  
relationship formed.



A diagonal appeared bonding the square  
and its shadow together.  
She knew this shadow to be her second self.

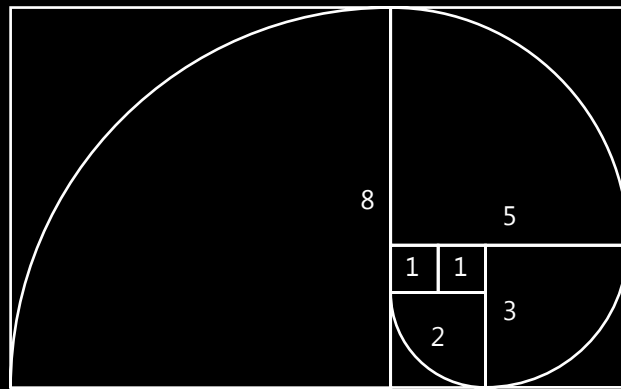
Square became completely versed in her second selves.  
She learned that she existed on many different pages  
of this book and beyond.  
She also existed in many different sizes.

Taking full advantage of her potential,  
her two squares sided up to another larger self.

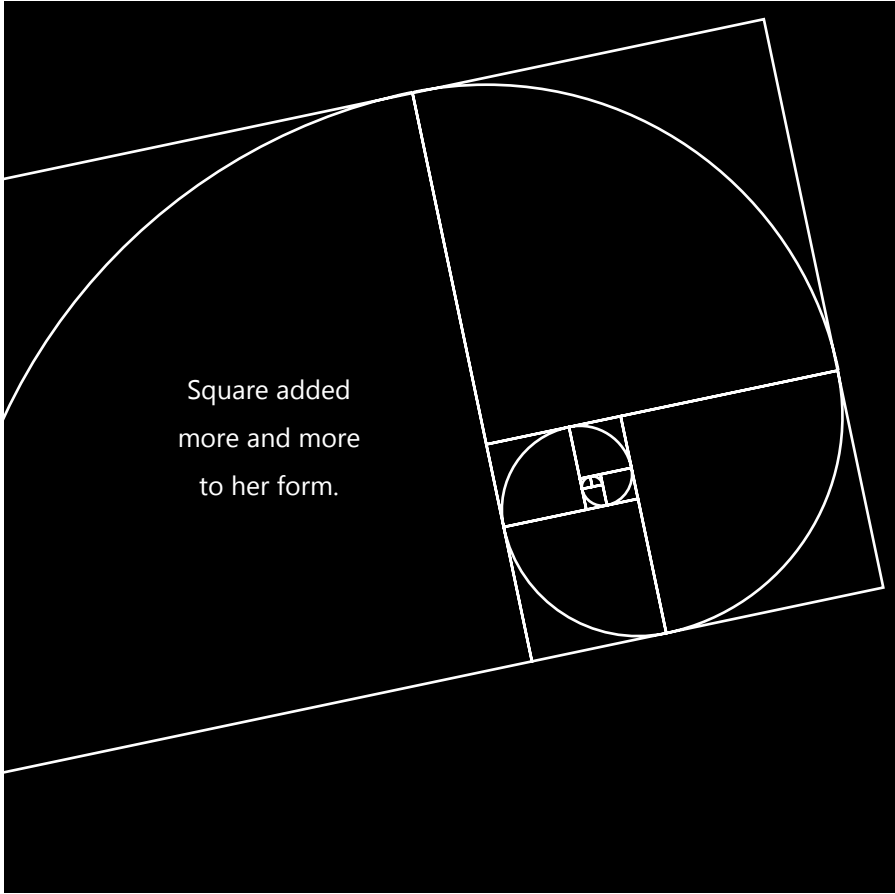


Their total measure now became three.

Whirling through space  
using this additive concept...



...two became three, three became five, five became eight.



Square added  
more and more  
to her form.



Her imagination began to spiral.  
An understanding of the layers  
of time and space coalesced.



Repeating herself, Square birthed a string of events  
that simulate the Fibonacci Series.

The Fibonacci Series is a simple additive sequence that  
grows in its attempt to attain the proportion  
known as The Golden Ratio.

Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, . . .

Consecutive numbers are added together to progress the series:

$0+1=1$ ,  $1+1=2$ ,  $1+2=3$ ,  $2+3=5$ ,  $3+5=8$ ,  $5+8=13$ ,  $8+13=21$ , . . .

In the Fibonacci Series consecutive numbers create fractions that estimate the proportion of the Golden Ratio.

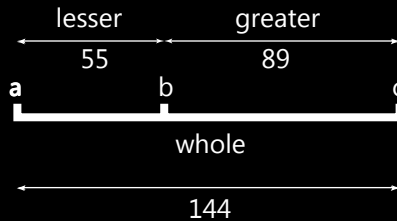
For example  $55/89$  is a fraction from the series.

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, (55, 89), 144, 233, 377, . . .

As the Fibonacci Series progresses, its fractions become increasingly closer to the Golden Ratio.

However, it can never completely describe it because the Golden Ratio is an irrational number.

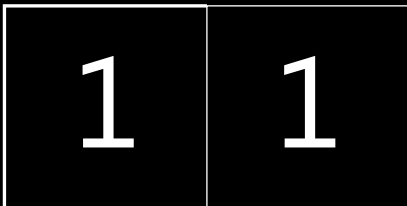
## THE GOLDEN RATIO



Segment  $ab$  is to  $bc$  as  $bc$  is to  $ac$   
or the lesser is to the greater as the greater is to the whole.

Note how the fraction  $55/89$  from the Fibonacci Series is represented in the diagram as it estimates the proportion of the Golden Ratio.

The famous mathematician Johannes Kepler lauded this proportion comparing it to 'a precious jewel.'

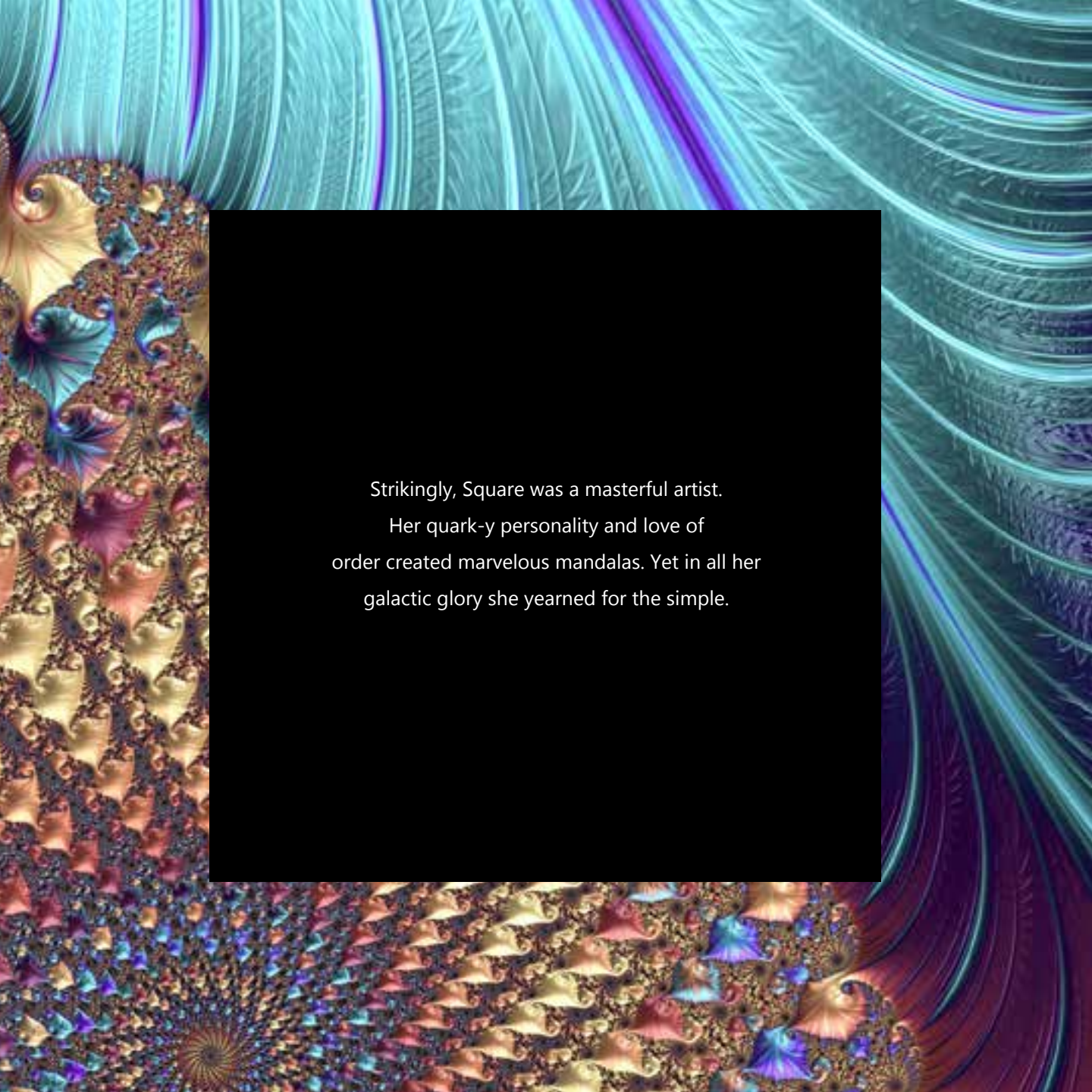


The Fibonacci Series has a peculiar irregularity in its pattern. As in our story, the one (Square) repeats herself! This is the only time in the Fibonacci Series that a number repeats itself.

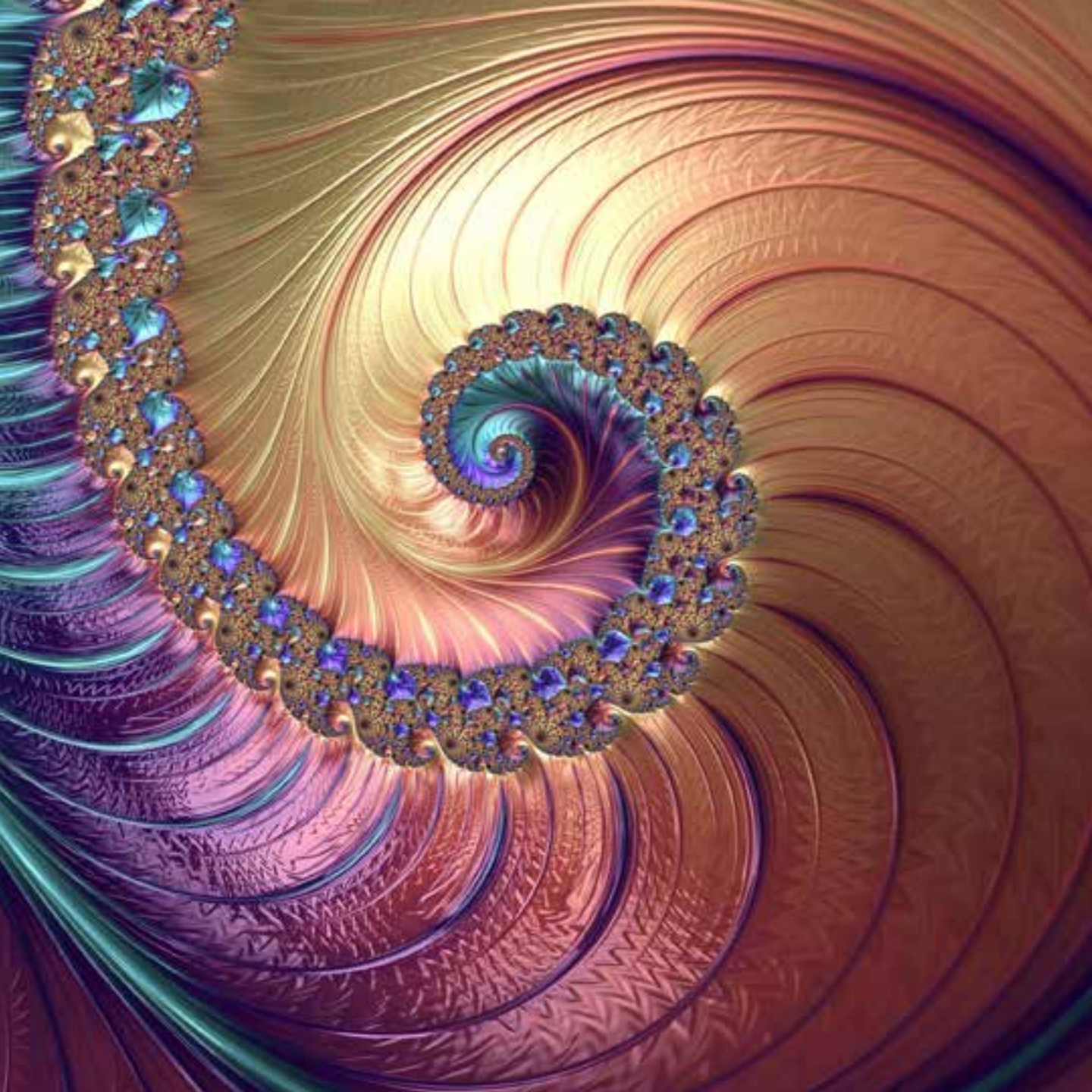
Fibonacci Series:

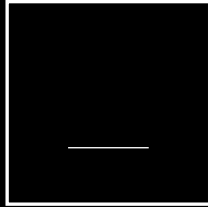
0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, . . . .

Square takes full advantage of this  
duplication. She uses a simple binary system  
of one, and zero plus one (the square and it's shadow),  
to create endless energy manifesting  
in an infinite spiral!



Strikingly, Square was a masterful artist.  
Her quark-y personality and love of  
order created marvelous mandalas. Yet in all her  
galactic glory she yearned for the simple.

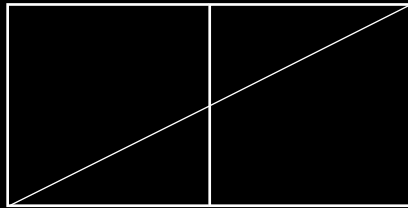




So she sat and meditated.



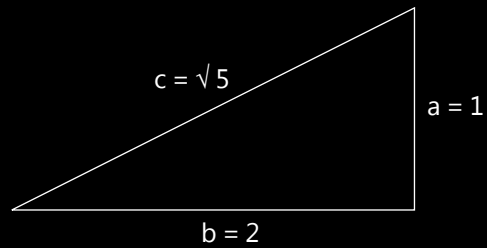
Square knew that the whirling complexity of her life  
was getting her closer to the truth.  
However, this path of greater and greater fractions  
could never answer the irrationality of infinity.



So Square concentrated on that first synergistic connection  
and the divine trinity formed from her binding diagonal.

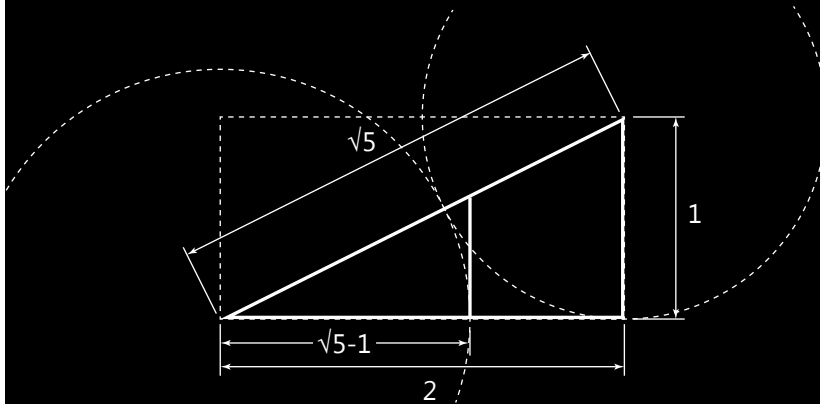
Pythagorean Theorem

$$a^2 + b^2 = c^2, \quad 1^2 + 2^2 = 5^2, \quad c = \sqrt{5}$$



Using the Pythagorean Theorem  
Square calculated her diagonal to be  $\sqrt{5}$ .  
Her other two lengths were 1 and 2.

Looking inward, examining her root, Square and her shadow  
divided her base into The Golden Ratio.

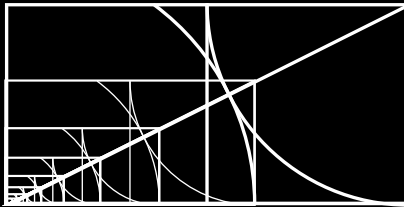


Square subtracted her side 1 from  
her diagonal  $\sqrt{5}$  and then divided  $\sqrt{5}-1$  into her base 2.

$$\frac{\sqrt{5}-1}{2} = .6180339887... = \text{The Golden Ratio}$$



This calculation led Square to an irrational idea.



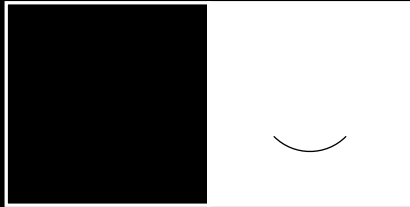
Square realized she held a never-ending  
gnomonic expansion of her base-line.  
The Golden Ratio was infinitely repeated  
within her double square!

Square's existence materialized the irrational  
expression of The Golden Ratio.

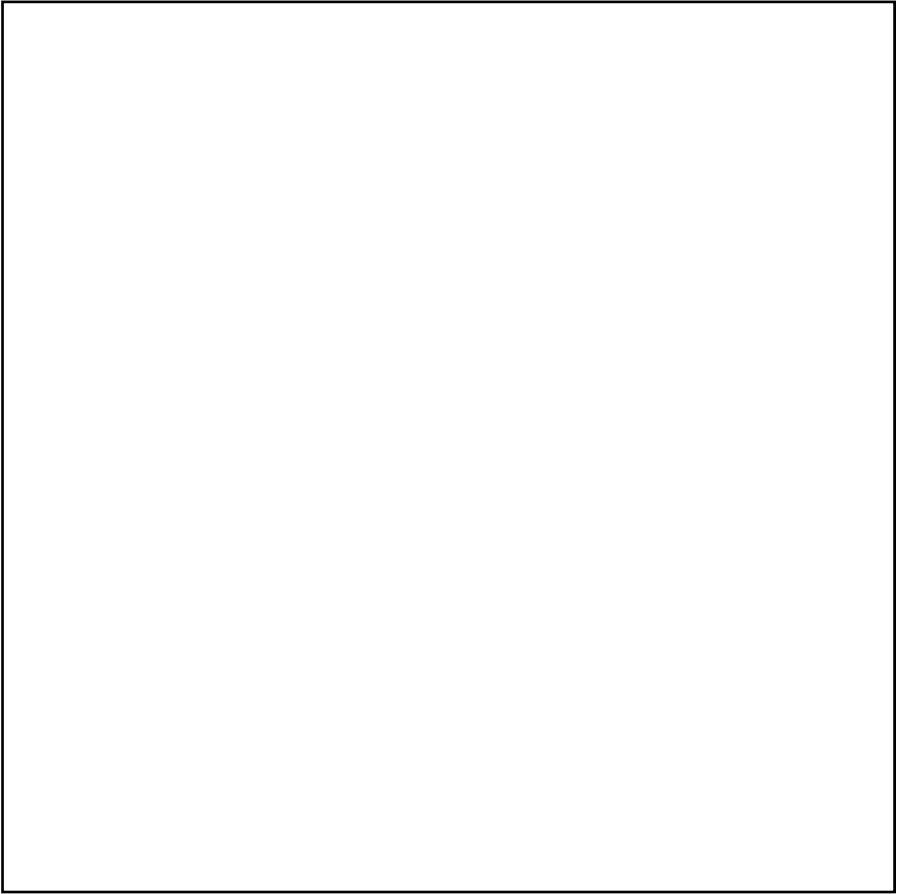
The Golden Ratio is duly recognized as the  
blueprint of nature. Examples abound,  
from the spiral of a pine cone and the beauty of  
a nautilus shell to the helix of our very DNA.

Thinking outside the box Square considered  
all she had learned. By infinitely multiplying  
and dividing her Golden Ratio she grew in many ways.  
Square became self-aware, she was someone.  
She mattered.



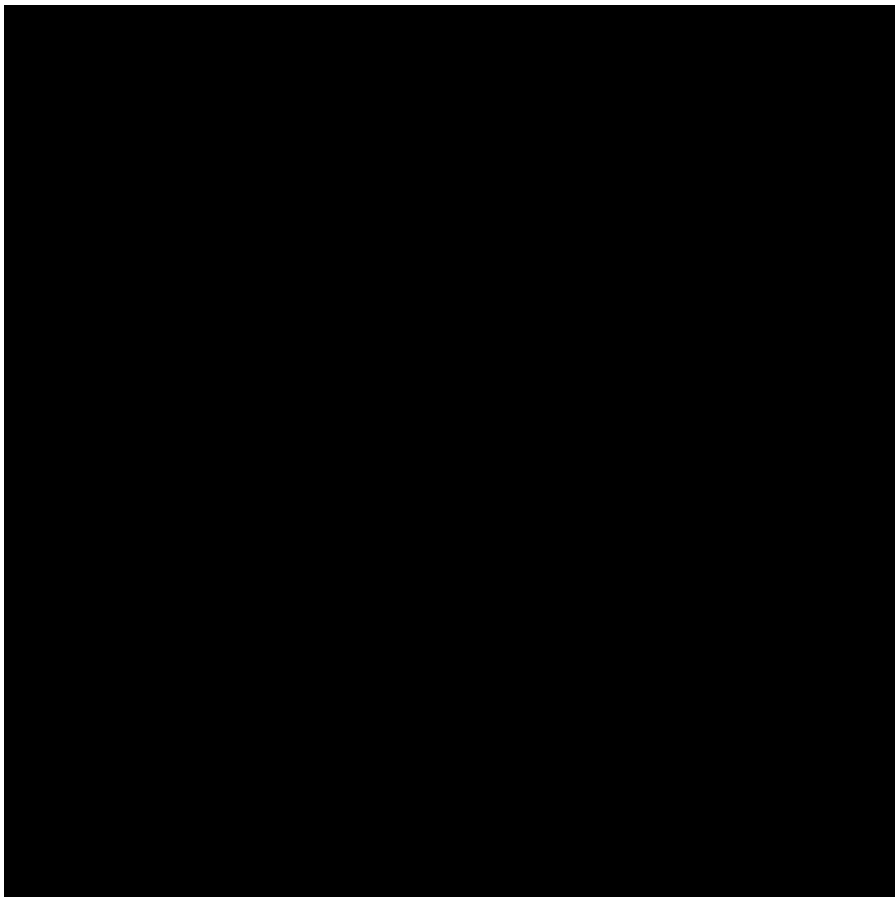


And you too are all that matter.



After Poem

There once was a square  
who sat in despair  
cause nothing else existed.  
But then she felt something  
as her points started bumping  
and she let out a song of delight!  
Well that really did it  
the square really hit it  
from a little vibration came light!



"The [Masonic] Square represents the material world...the square represents matter."

–J.S. Ward,

*Interpretation of Our Masonic Symbols*

In the eastern religions of Buddhism, Hinduism, and Taoism, the square represents the physical plane, the earth. It also signifies the physical body of man.

Plato describes the square and the diagonal as a physical model of our existential existence.

–*Republic*, (Allegory of the Cave, section 510d)

"We must say there are as many squares as there are numbers."

–Galileo Galilei

