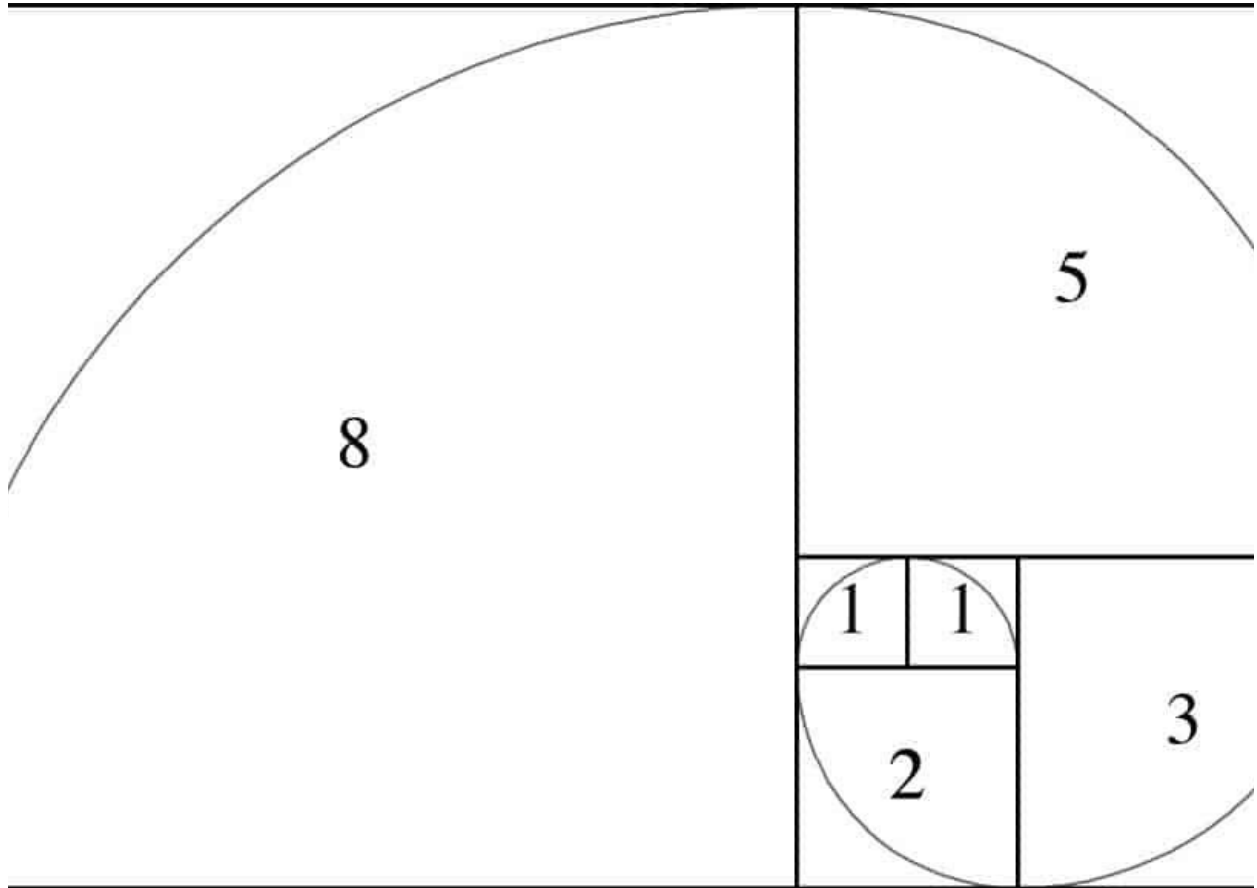


Use the idea



Introduction

The main formula I use when coming up with color schemes is the Fibonacci sequence better known as the golden rectangle. The rectangle has been used in many designs, architectures and fine art. The mathematician that found this golden ration was called. Leonardo of Pisa known as Fibonacci, but recently evidence of the equation has been found in ancient India. This symbol is found everywhere in nature and is also called the "Divine proportion" the formula can be used in math and design as well and has been a guiding principal in my works when working with color and introducing ultra violet paint.

Here is a brief history of the golden ratio:

Fibonacci numbers are strongly related to the golden ratio: Binet's formula expresses the n th Fibonacci number in terms of n and the golden ratio, and implies that the ratio of two consecutive Fibonacci numbers tends to the golden ratio as n increases.

Fibonacci numbers are named after Italian mathematician Leonardo of Pisa, later known as Fibonacci. In his 1202 book *Liber Abaci*, Fibonacci introduced the sequence to Western European mathematics,[5] although the sequence had been described earlier in Indian mathematics,[6][7][8] as early as 200 BC in work by Pingala on enumerating possible patterns of Sanskrit poetry formed from syllables of two lengths.

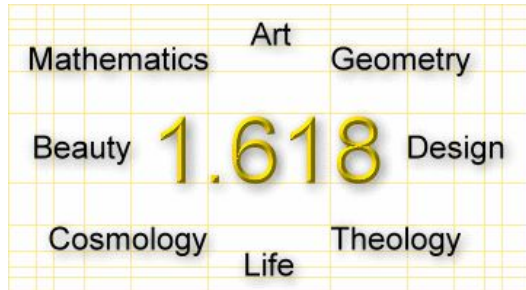
Fibonacci numbers appear unexpectedly often in mathematics, so much so that there is an entire journal dedicated to their study, the *Fibonacci Quarterly*. Applications of Fibonacci numbers include computer algorithms such as the Fibonacci search technique and the Fibonacci heap data structure, and graphs called Fibonacci cubes used for interconnecting parallel and distributed systems.

They also appear in biological settings, such as branching in trees, the arrangement of leaves on a stem, the fruit sprouts of a pineapple, the flowering of an artichoke, an uncurling fern, and the arrangement of a pine cone's bracts.

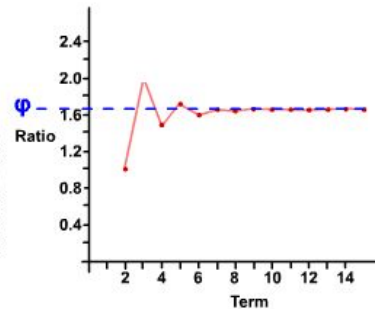
THE GOLDEN RATIO IN NUMBERS IS **1.618**

The Golden Ratio ϕ can be approximated by a process of successively dividing each term in the Fibonacci Sequence by the previous term.

With each successive division, the ratio comes closer and closer to a value of 1.618033987...



$2 \div 1 = 2.0000$
 $3 \div 2 = 1.5000$
 $5 \div 3 = 1.6666$
 $8 \div 5 = 1.6000$
 $13 \div 8 = 1.6250$
 $21 \div 13 = 1.6154$
 $34 \div 21 = 1.6190$
 $55 \div 34 = 1.6176$
 $89 \div 55 = 1.6182$
 etc...



The Fibonacci Sequence

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

$$1+1=2$$

$$1+2=3$$

$$2+3=5$$

$$3+5=8$$

$$5+8=13$$

$$8+13=21$$

$$13+21=34$$

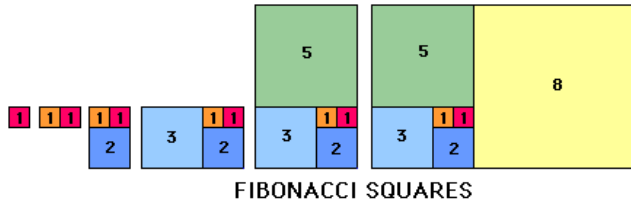
$$21+34=55$$

$$34+55=89$$

$$55+89=144$$

$$89+144=233$$

$$144+233=377$$



If you can not explain it simply, you don't understand it well enough.

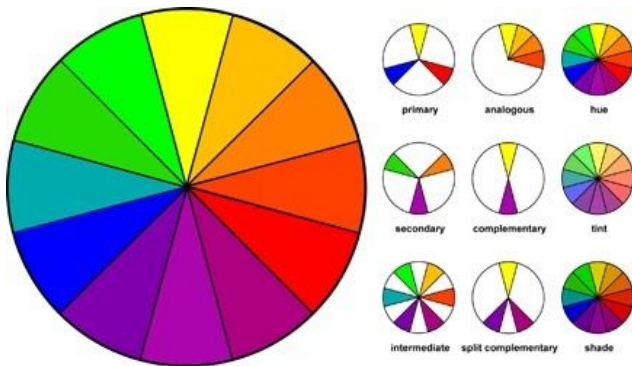
-ALBERT EINSTEIN

Using the quote, the simplest way I can describe the formula is:

LARGE, MEDIUM AND SMALL

I have found that working in 3rds is the simplest way to subdivide space and allows me to apply the divine proportions in my color formulas to store them in my subconscious and work intuitively while using the formula.

What I tend to do is pick one local color then find its formula on the color wheel then I impose the Fibonacci sequence on top.



Process

What I tend to start with, is to decide whether the piece will be a hot or cool piece. I later pick a color that will be my local color and I choose one of my main formulas within the color wheel. There are an infinite amount of combinations that can compliment a pleasing color palette depending on what you are trying to communicate or emotion you want to

convey. I always use what is known as the rule of thirds. The rule of thirds allows you to easily subdivide a space and toggle between asymmetrical design elements to make the golden ratio easy to work with. Since I work with large, medium and small the process of geometric color thought process works best if number of colors used is : 3, 6,9,12

To simplify the explanation I will demonstrate using a split complimentary color palette

I choose the local color (hot or cold). -LARGE

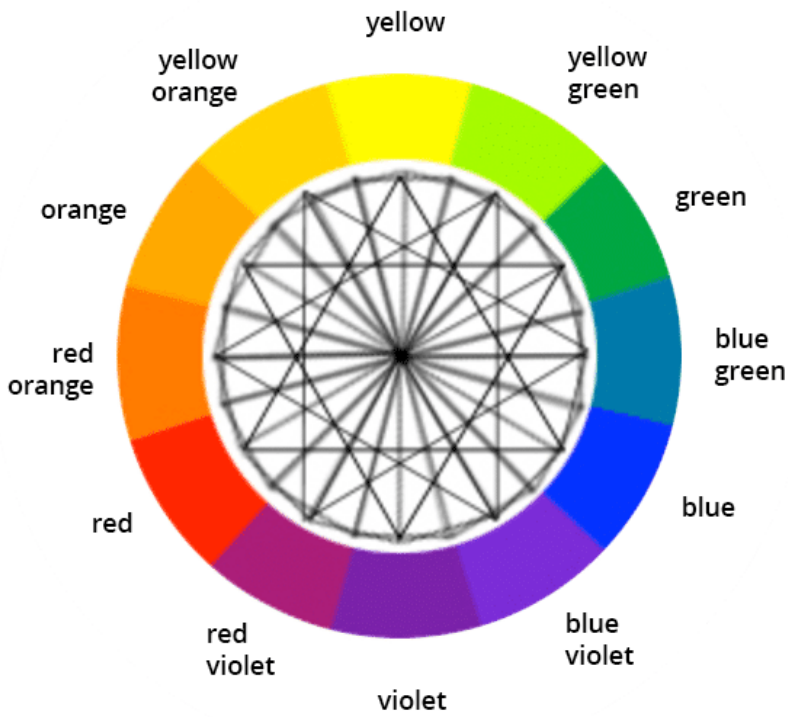
I find its harmonious color. -MEDIUM

I intuitively subdivide the contrast color- SMALL

Color combinations and formulas

There are many combinations of color formulas and theories that can be applied to the piece. Studying the golden ratio has also allowed me to see how the use of sacred geometry can be applied when selecting color combinations that will be a great arsenal for equipping a strong and interesting color palette. The way I have learned to use color has been in changing the values in them, making some colors more intense than others. Changing color values has given me a wide range of possibilities to intensify cool colors as well as soften hot colors. Here are a few other ways in which to use the color palette to give

you better ideas on how you can toggle and push a variety of combinations:



Values within the color wheel:



Ultra violet paint:

When using ultra violet paint, the same theories apply however you have to keep in mind that any color not in UV becomes black negative space, which is good to plan out the negative space and use the Fibonacci sequence to ensure that the usage of the neons is applied in the areas that best please the eye and allow it to rest. Also keep in mind that

most colors tend to lean towards the hot side, so it is best to counter and balance using a different array of regular cool colors within the process.

Hopefully this small article is found to be useful and wanted to give a shout to the good work that Issac Newton came up with in developing the color wheel and the inventor Nikola Tesla for discovering neon and phosphorescent colors! Make sure to always USE THE IDEAS!!

-BLACK LIGHT KING