

# **AN INTRODUCTION TO THE TRADITION OF SACRED GEOMETRY**

Brian Curtis

Associate Professor: Painting/Drawing  
Department of Art and Art History  
University of Miami



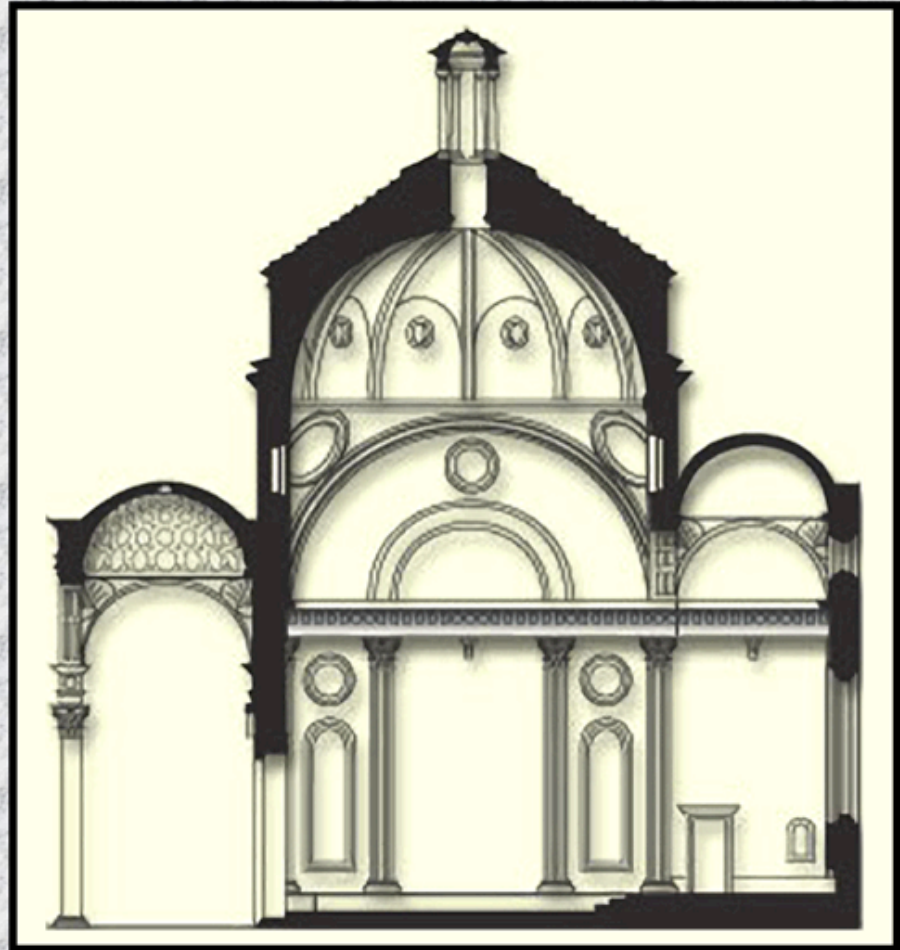
# ***The Renaissance***

*15th 16th Centuries*





*Exterior the Pazzi Chapel*



*Interior the Pazzi Chapel*

## *Pazzi Chapel*

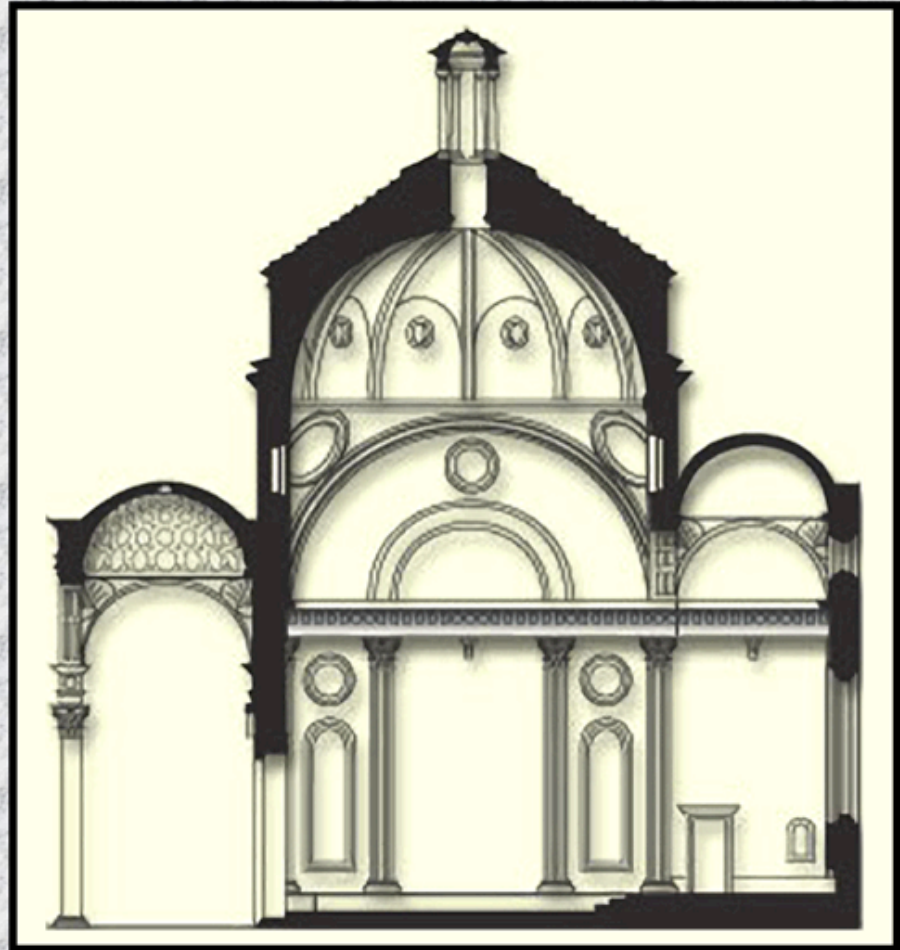
Filippo Brunelleschi 1429 - 1462

© Brian Curtis - 2004





*Exterior the Pazzi Chapel*



*Interior the Pazzi Chapel*

## *Pazzi Chapel*

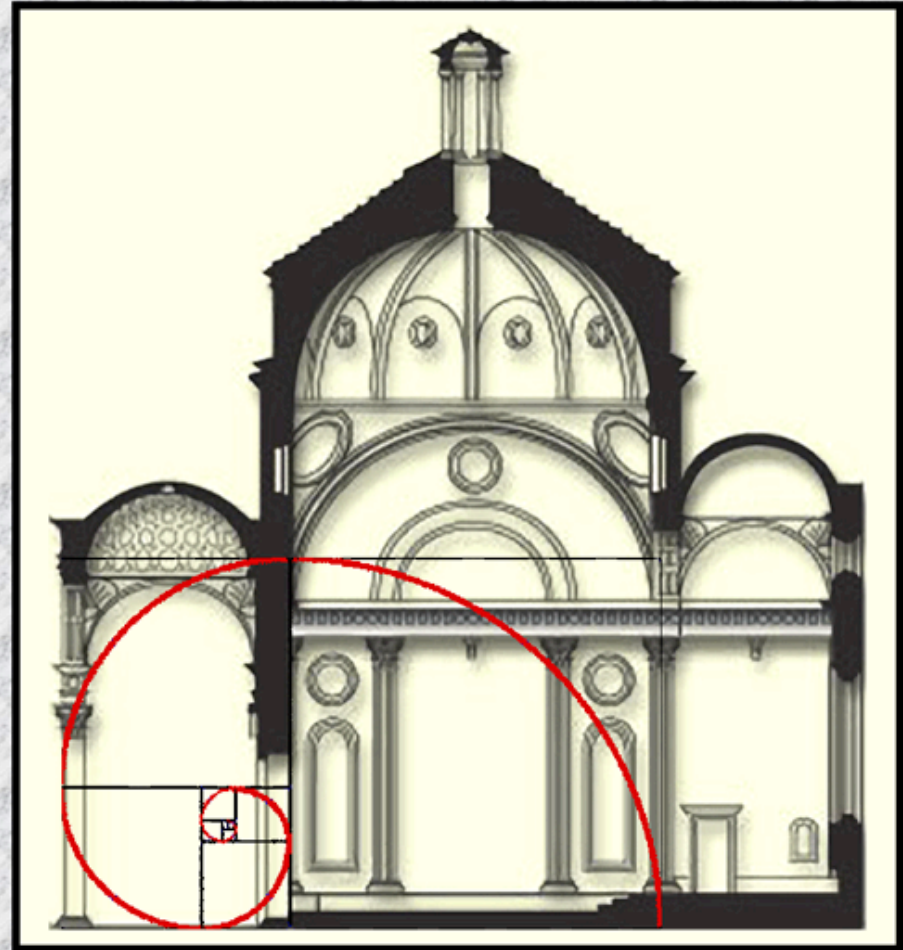
Filippo Brunelleschi 1429 - 1462

© Brian Curtis - 2004





*Exterior the Pazzi Chapel*



*Interior the Pazzi Chapel*

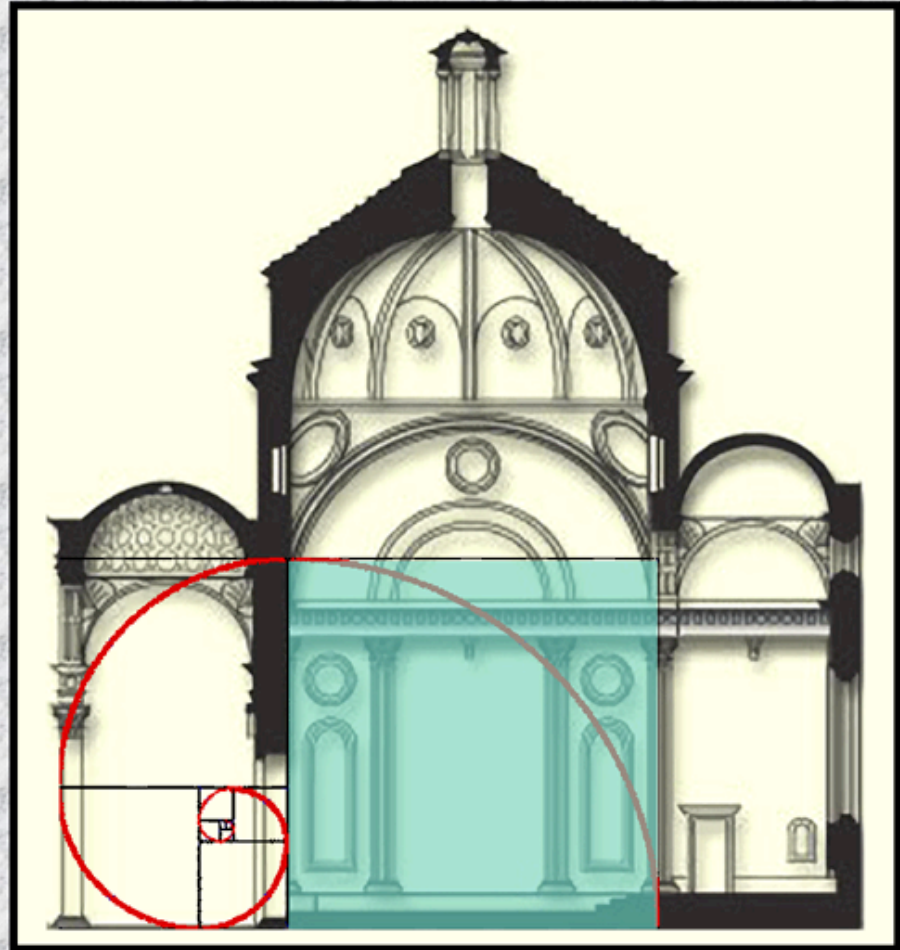
## *Pazzi Chapel*

Filippo Brunelleschi 1429 - 1462





*Exterior the Pazzi Chapel*



*Interior the Pazzi Chapel*

## *Pazzi Chapel*

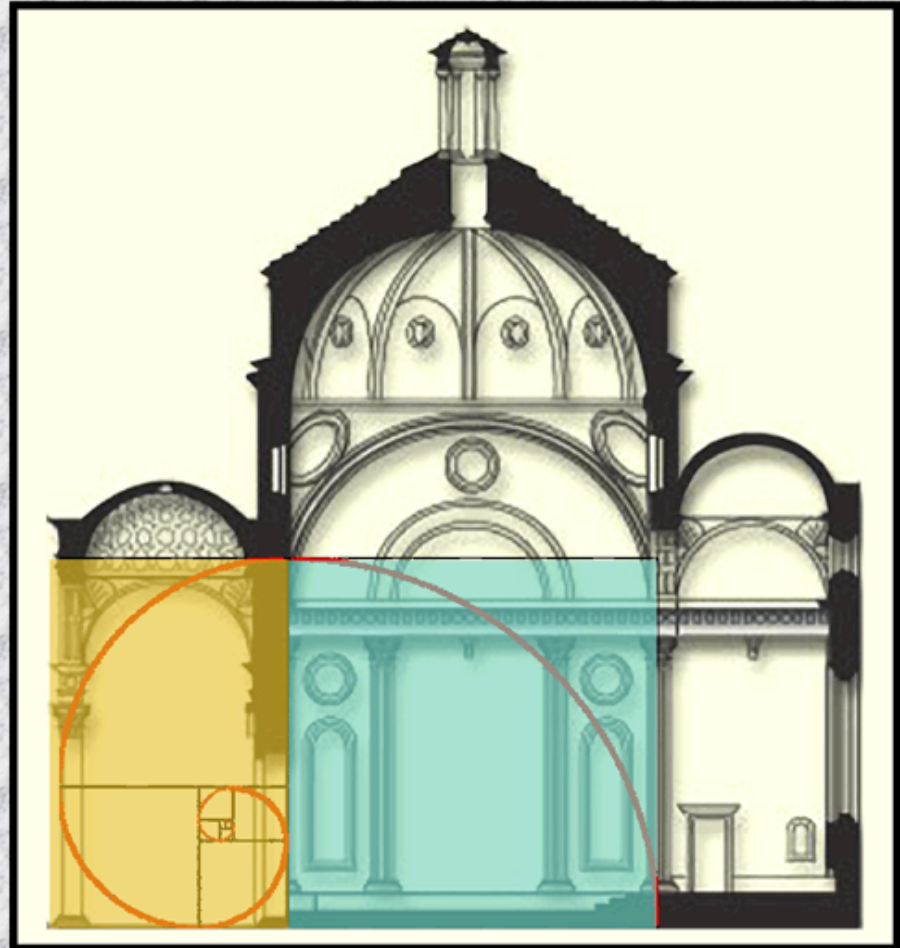
Filippo Brunelleschi 1429 - 1462

© Brian Curtis - 2004





*Exterior the Pazzi Chapel*



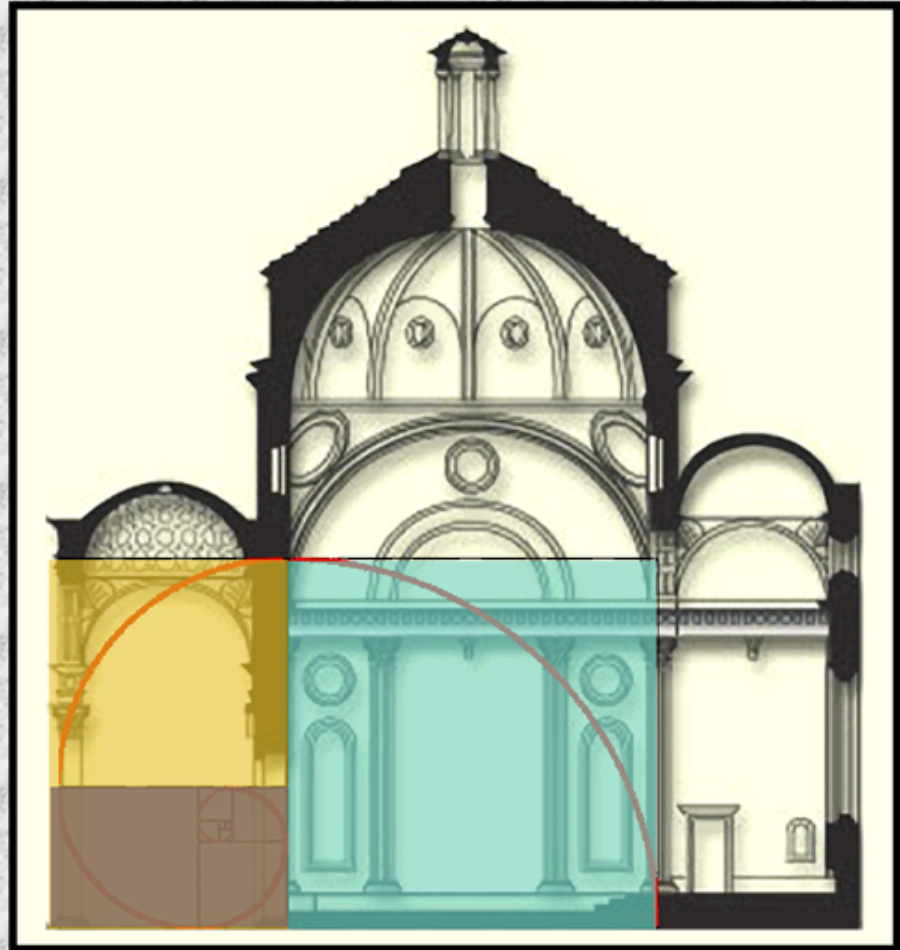
*Interior the Pazzi Chapel*

## *Pazzi Chapel*

Filippo Brunelleschi 1429 - 1462



*Exterior the Pazzi Chapel*



*Interior the Pazzi Chapel*

## *Pazzi Chapel*

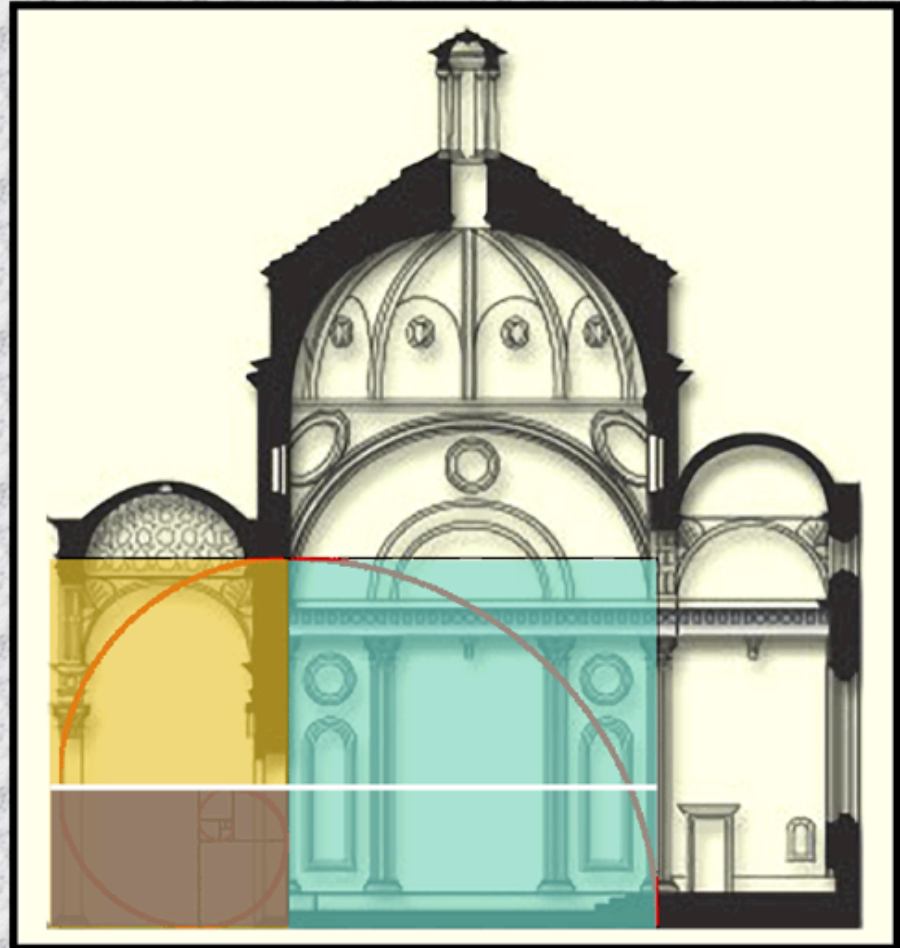
Filippo Brunelleschi 1429 - 1462

© Brian Curtis - 2004





*Exterior the Pazzi Chapel*



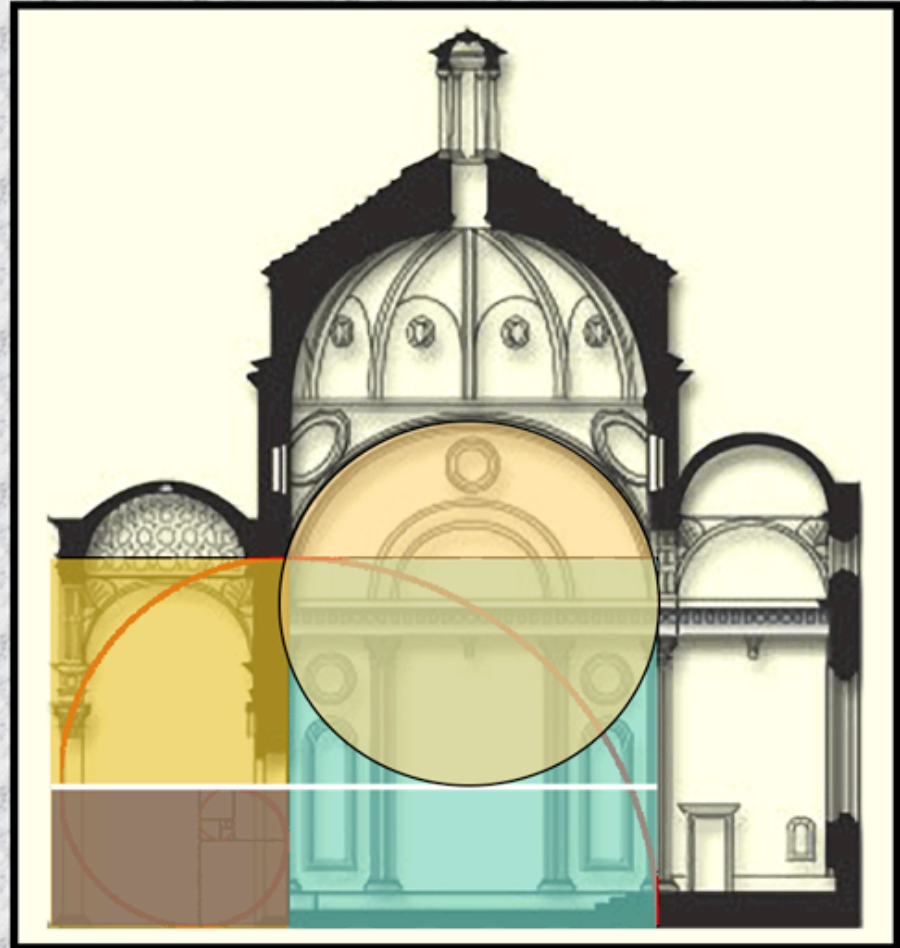
*Interior the Pazzi Chapel*

## *Pazzi Chapel*

Filippo Brunelleschi 1429 - 1462



*Exterior the Pazzi Chapel*



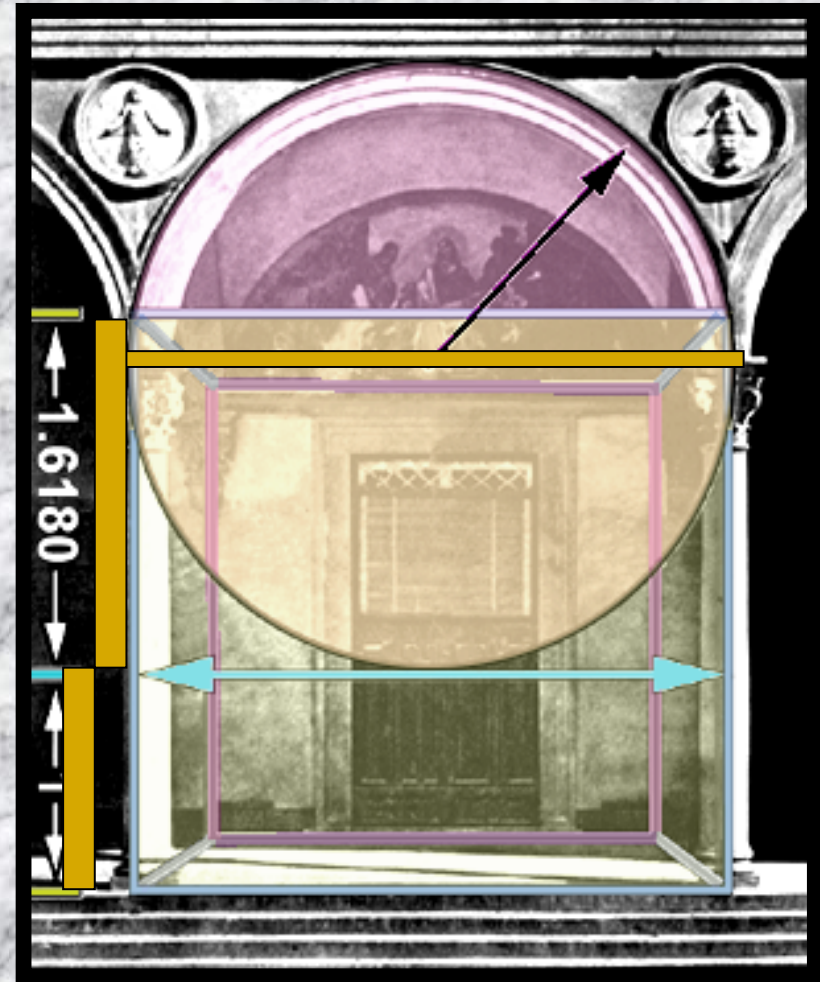
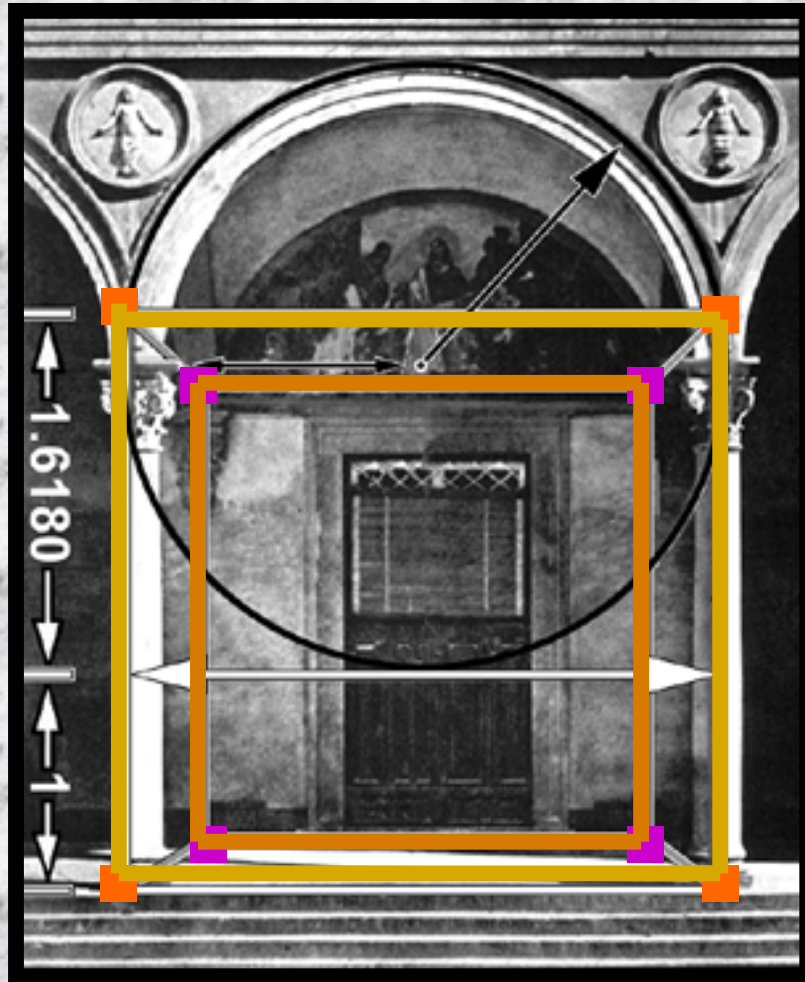
*Interior the Pazzi Chapel*

## *Pazzi Chapel*

Filippo Brunelleschi 1429 - 1462

© Brian Curtis - 2004





# *Ospitale del Innocenti*

Filippo Brunelleschi





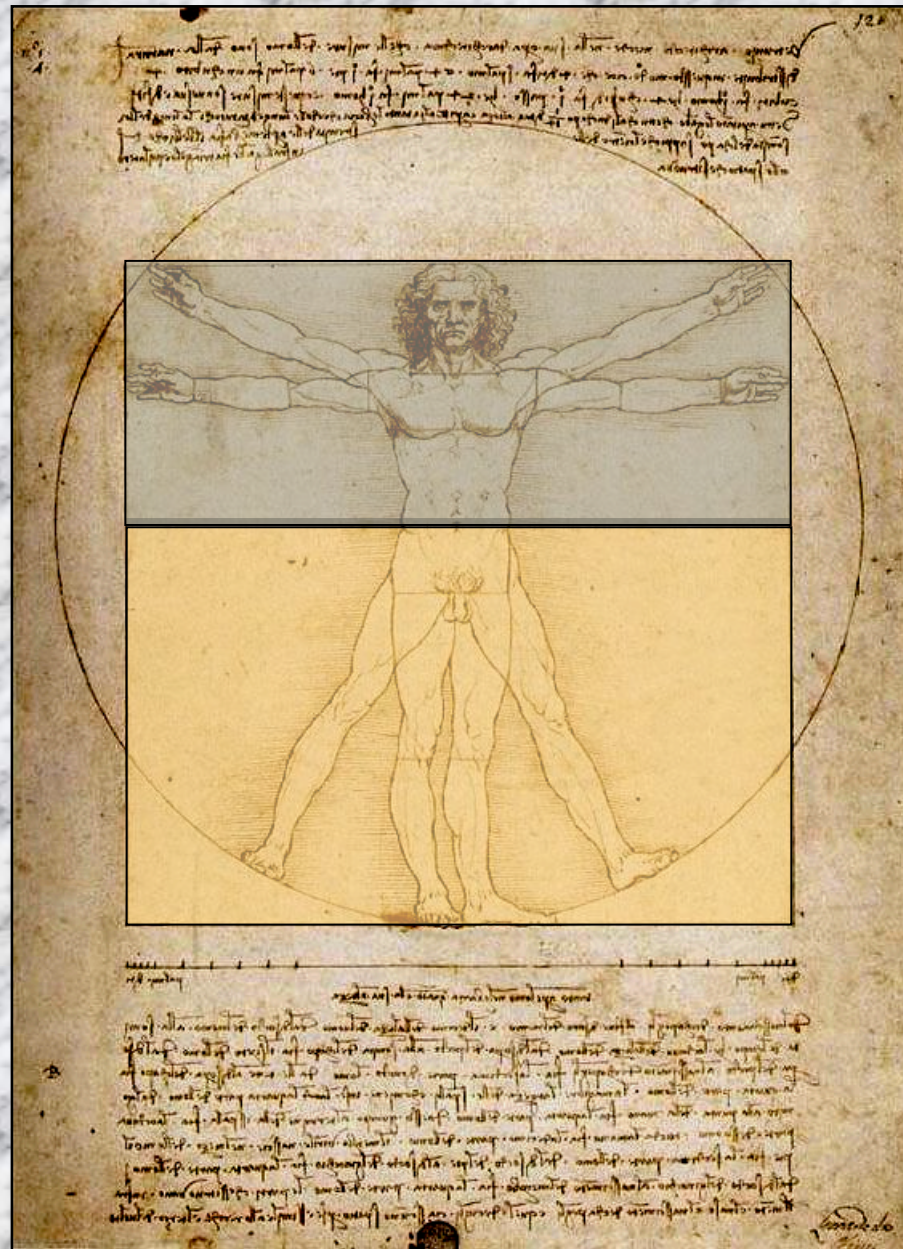
**Mona Lisa** by Leonardo da Vinci  
1483 - 1489

© Brian Curtis - 2011

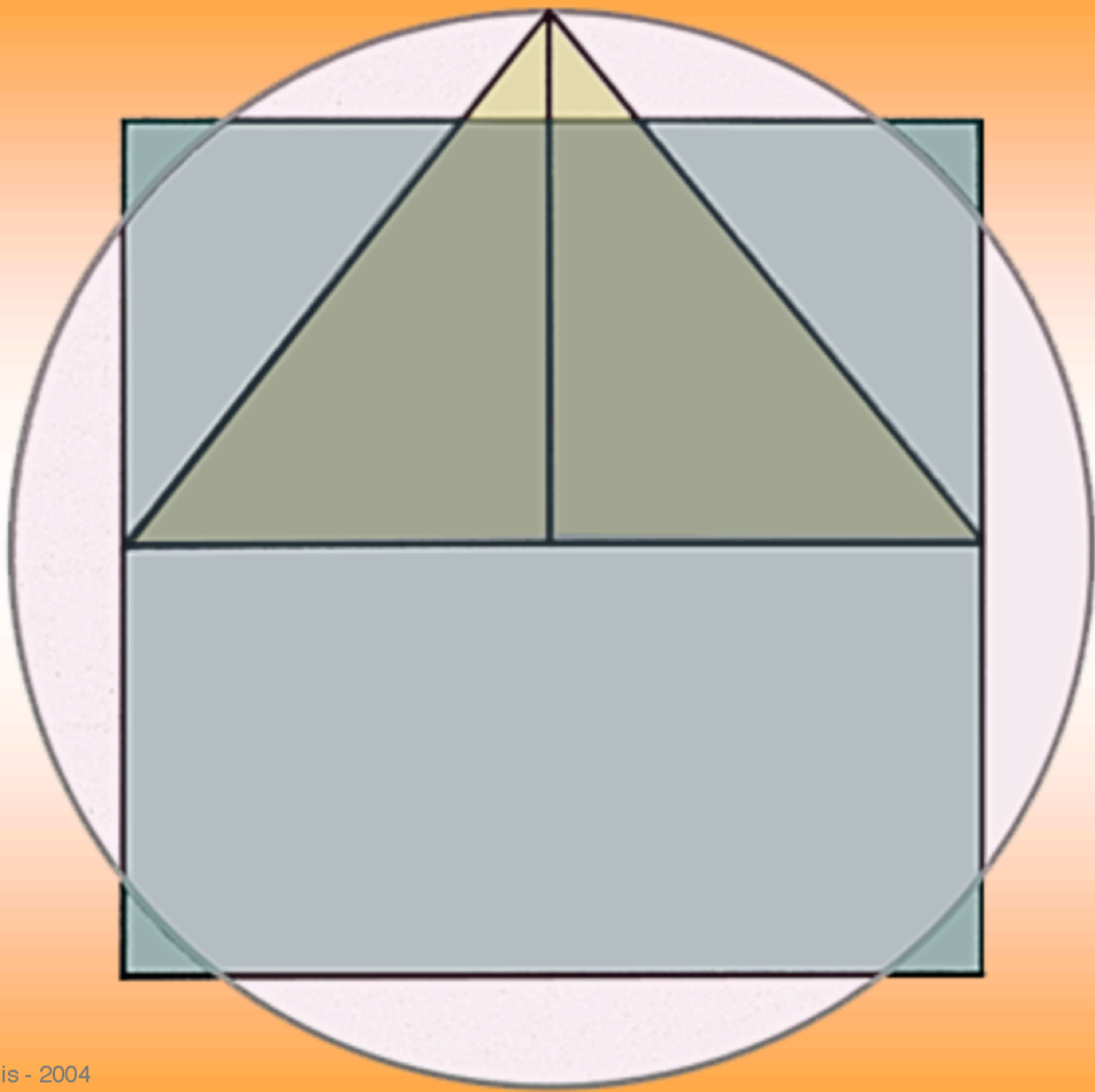


.618

1

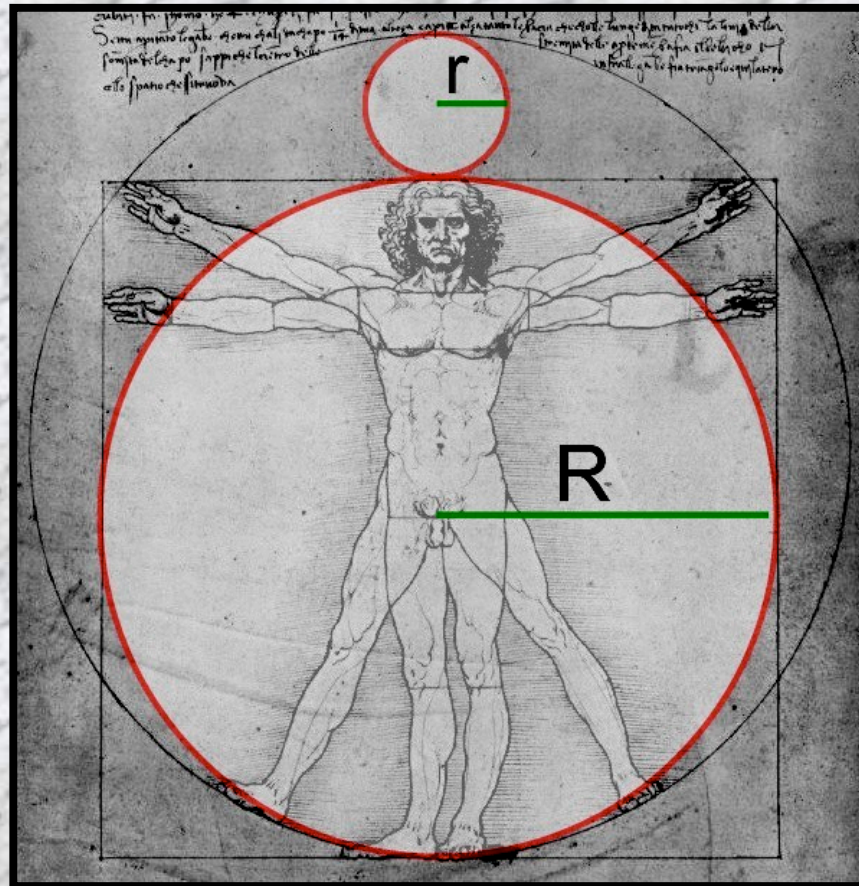






© Brian Curtis - 2004







© Brian Curtis - 2004





Fra Luca Pacioli, author of Sacra Proportione as painted by Jacapo Barbieri. Historians have speculated that the figure at right could possibly be the German renowned painter **Albrecht Durer**.

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

Every 4 number row adds  
up to 34





© Brian Curtis - 2004











© Brian Curtis - 2004







© Brian Curtis - 2004







© Brian Curtis - 2004



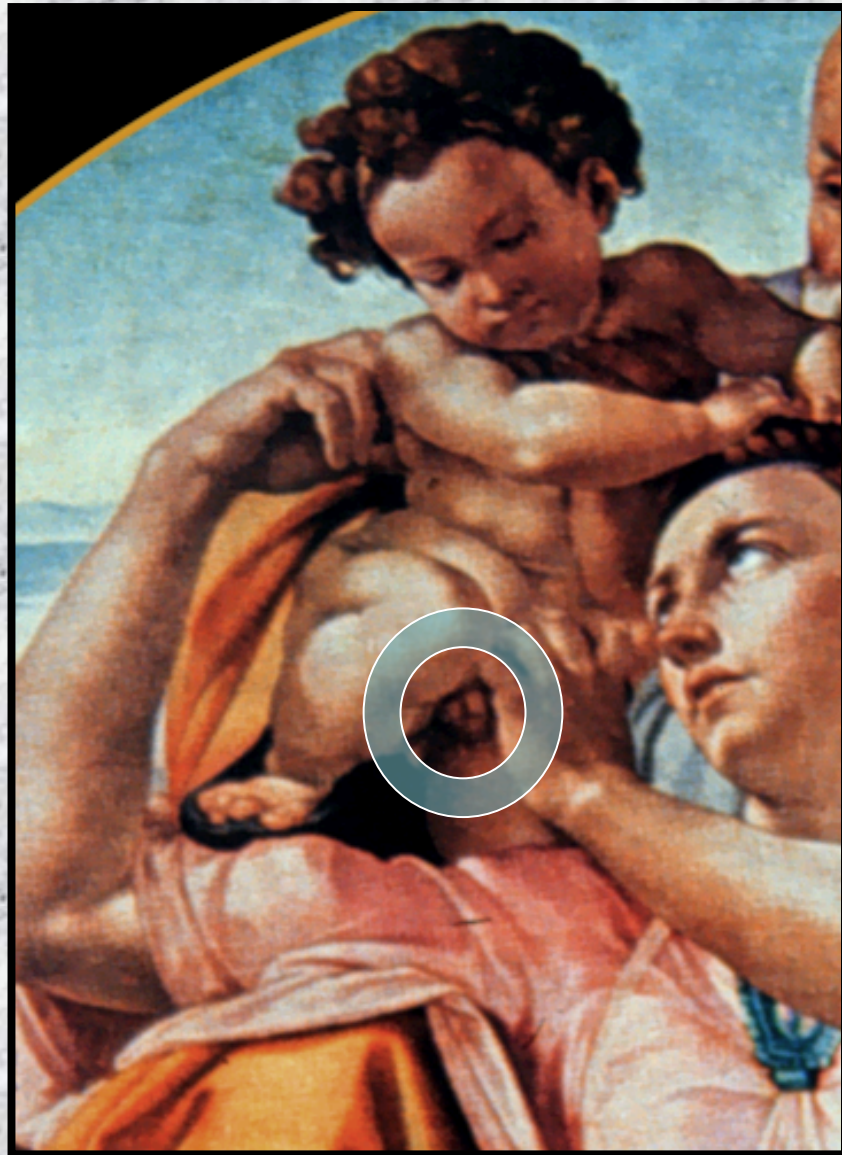




© Brian Curtis - 2004



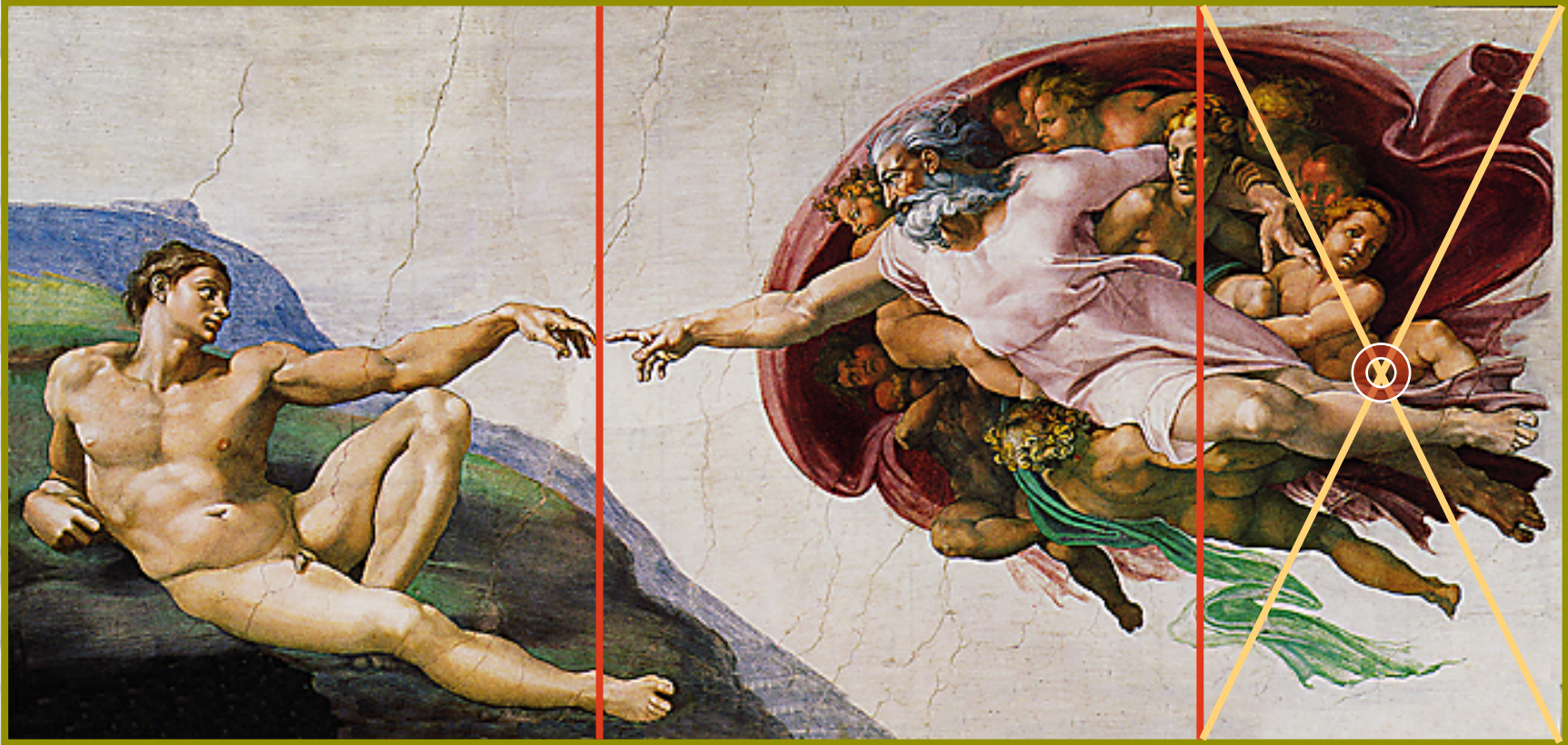




© Brian Curtis - 2004

**.618**

**1**



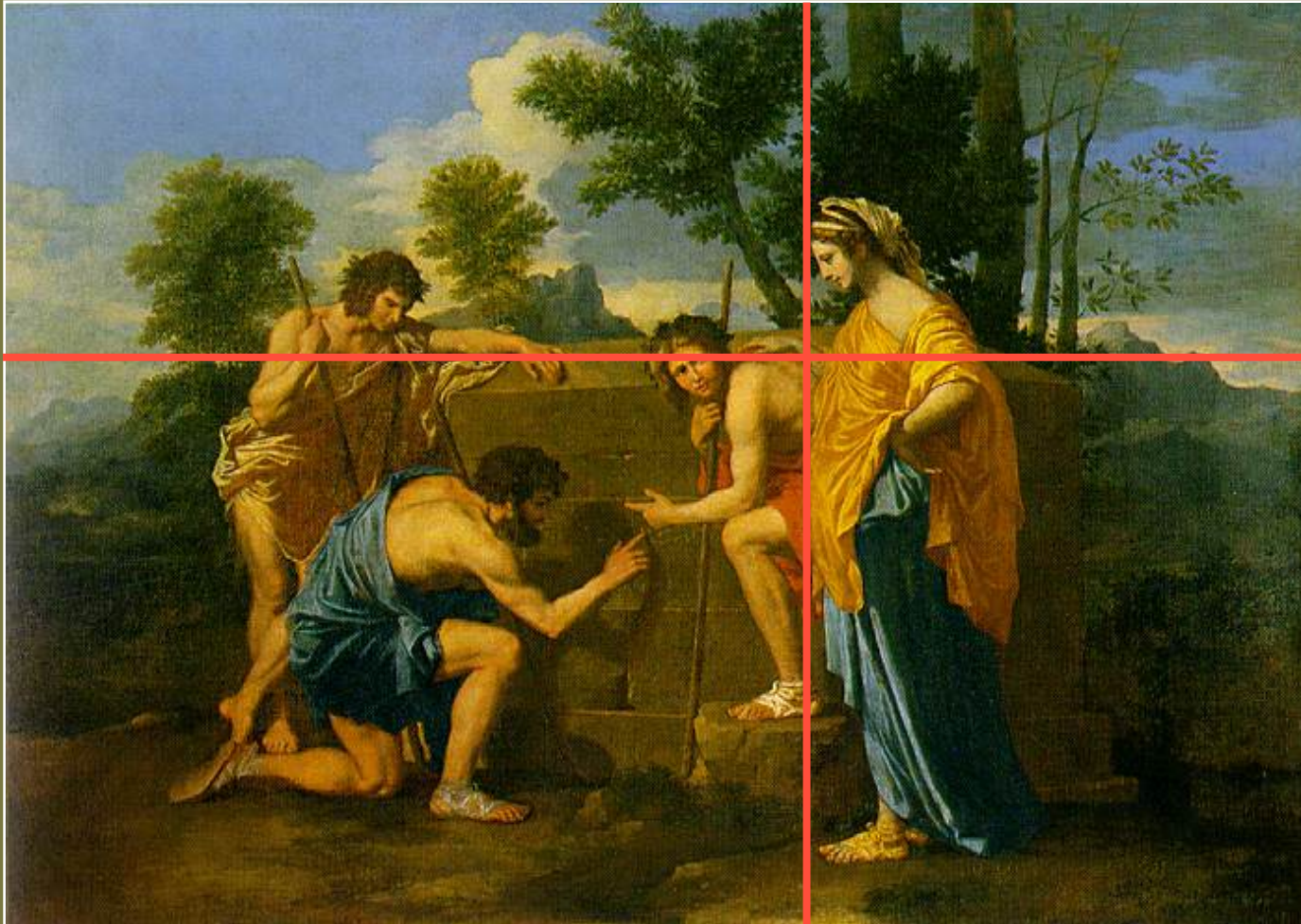
**1**

**Creation of Adam - Sistene Ceiling  
by Michelangelo - 1512**

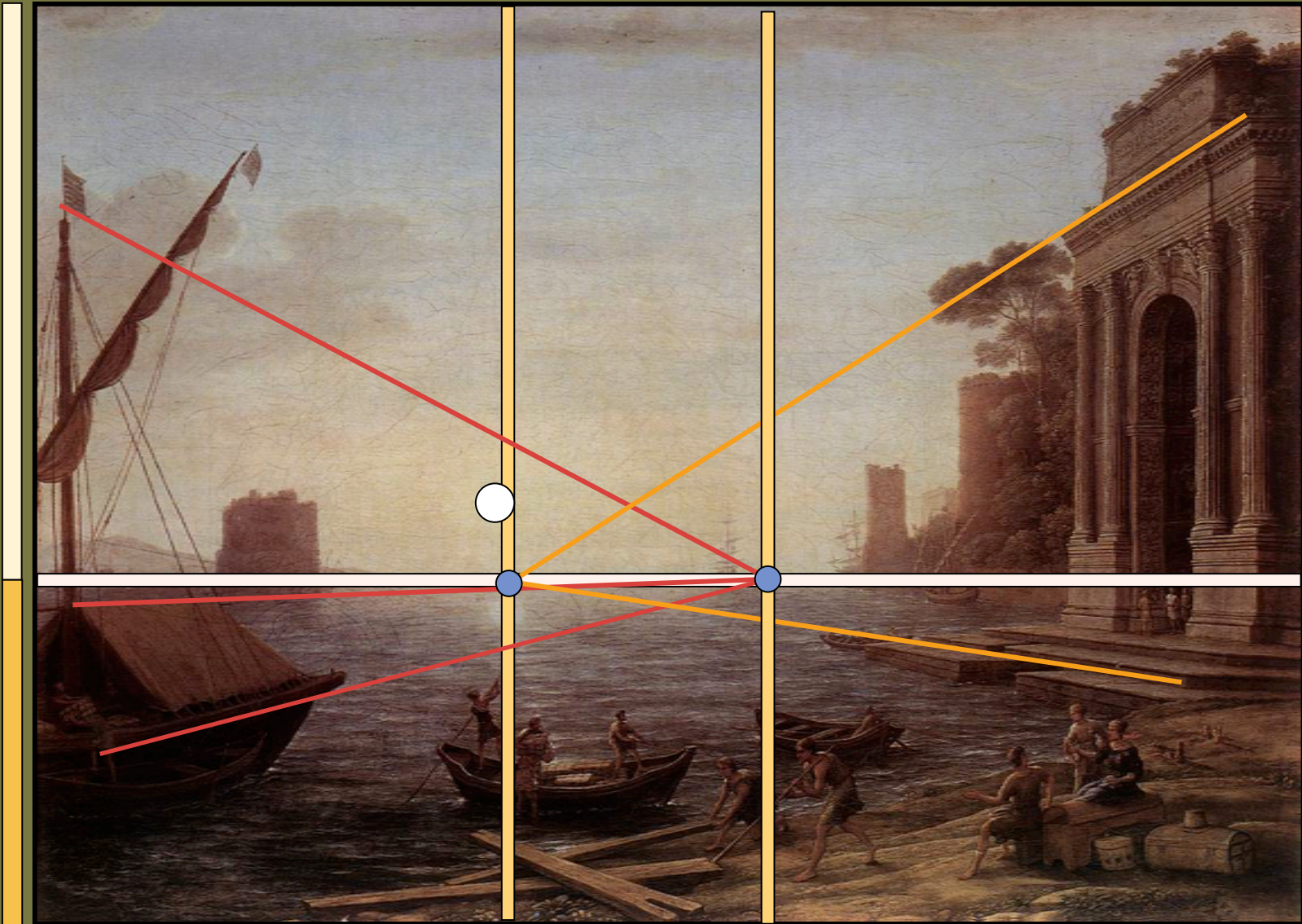
**.618**



# *The 17th Century*



© Brian Curtis - 2004 **Shepherds in Arcadia** by Nicholas Poussin 1638

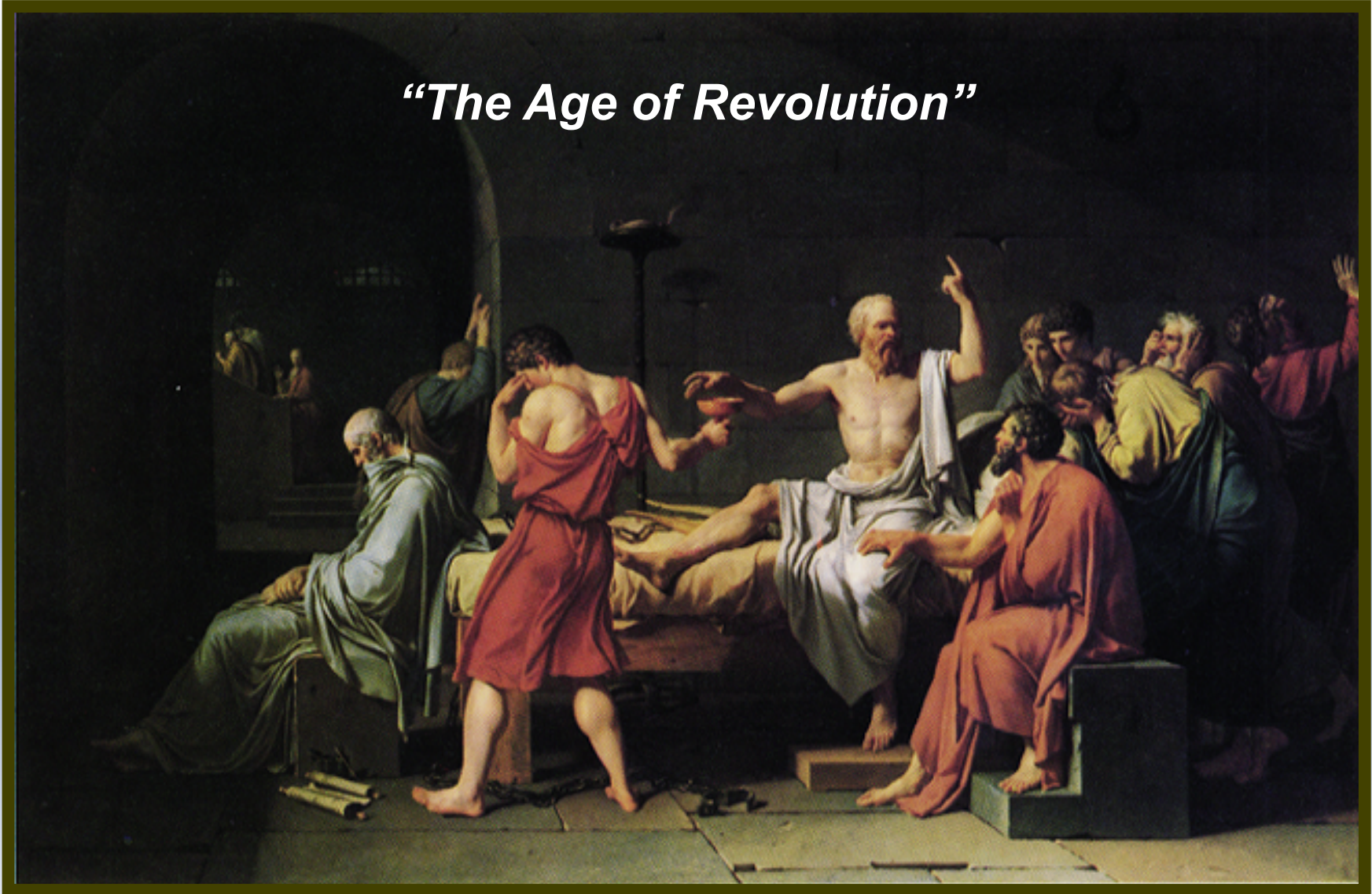


© Brian Curtis - 2004

**A Seaport at Sunrise by Claude Lorraine 1674**

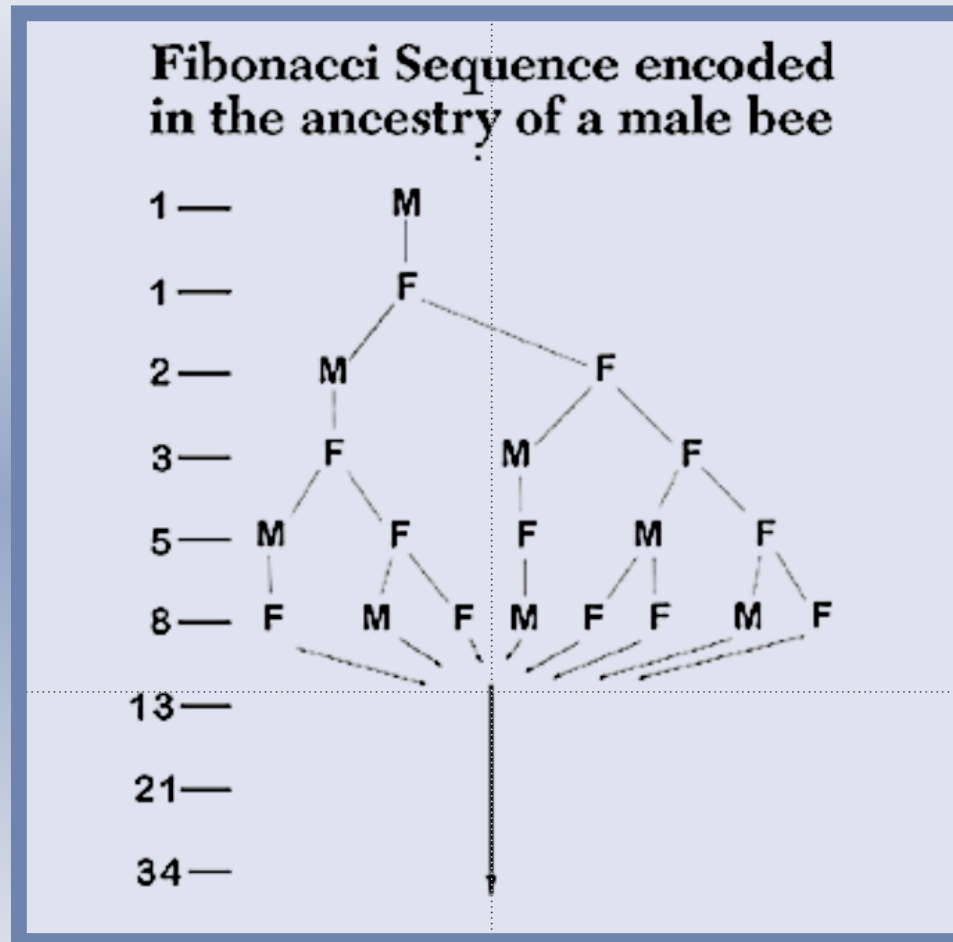


## ***“The Age of Revolution”***



## *The Eighteenth Century*

## Mathematical Discovery in 1753

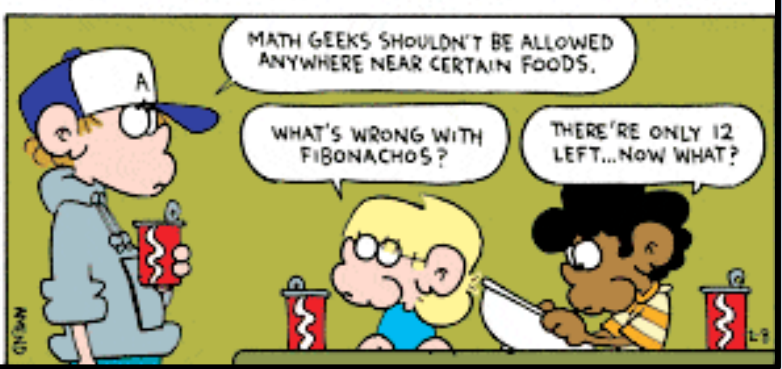
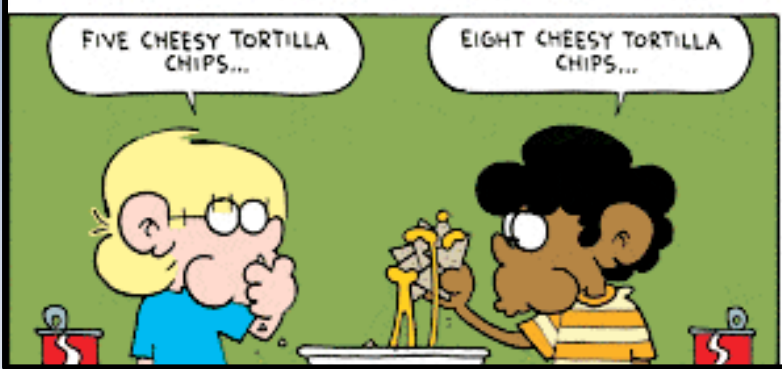
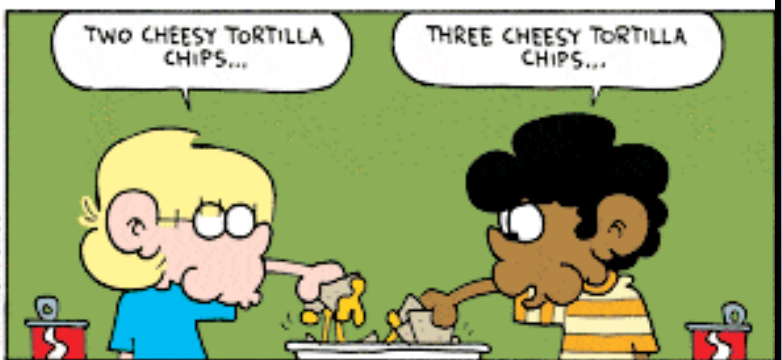






# FoxTrot

by Bill Amend





# Mathematical Discovery in 1753

Over two thousand years after the design and construction of the Parthenon, an eighteenth-century mathematician who was casually playing with the numbers from the Fibonacci Sequence came to the realization that encoded in this summation series is an ever more accurate numerical approximation of the **Golden Mean**.

X,Y	X/Y	Y/X
1,1	1	1
1,2	0.5	2
2,3	0.666...	1.5
3,5	0.60	1.666...
5,8	0.625	1.60
8,13	0.6153	1.625
13,21	0.6190	1.6153
21,34	0.6176	1.6190
34,55	0.61818...	
1.6176		
55,89	0.61797	1.61818...



© Brian Curtis - 2011

*Death of Wolfe* by Benjamin West  
1770









# *Influencial Masons*

*There are some who, in response to the influence of the Masons, have gone so far as to suggest that the American Revolution was actually a Masonic experiment in ideas of government that, in turn, were rooted in ancient mystical traditions. Whether or not there is any substance to this particular claim it is certainly easy to substantiate the fact that Freemasons were prominent in the Revolution and made critical and formative contributions. Among the most visible of these Masons were **George Washington, John Hancock, John Marshall, Baron Von Steuben, the Marquis de Lafayette**, and (for the conspiracy theorists among us) **all of the British generals**. Not only did St. Andrews Masonic Lodge play an important role in the Boston Tea Party at the beginning of the conflict, but the very first oath of office was administered to a mason (George Washington) by a Grand Master on a bible from St. Johns Masonic Lodge #1 of New York.*



## ***Political Transformations***

*It was during this century that the **Brotherhood of Freemasons**, with the opening of the London Grand Lodge (1717), came to possess considerable political influence. The guiding principles of this secret society were rooted in **liberty**, **equality**, **brotherhood**, and **the rights of man**. As the century unfolded Freemasons were among the leaders who initiated sweeping social and political transformations that forever changed the face of western society.*





The Great Seal of the United States of America

*A dwelling place for the Infinite in the realm of space and time*



Thirteen letters

Thirteen levels of stone

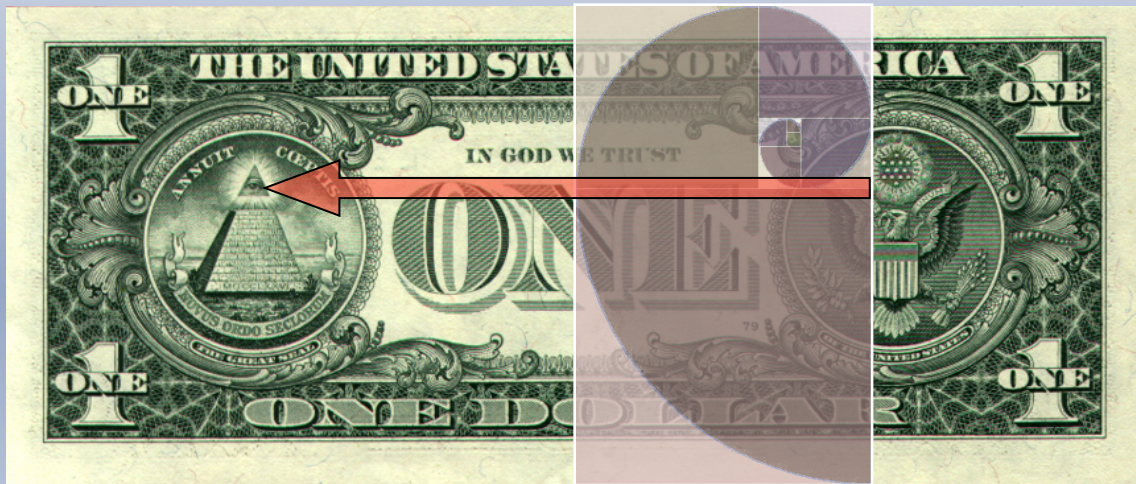
*The All-Seeing Eye of Divine Providence*



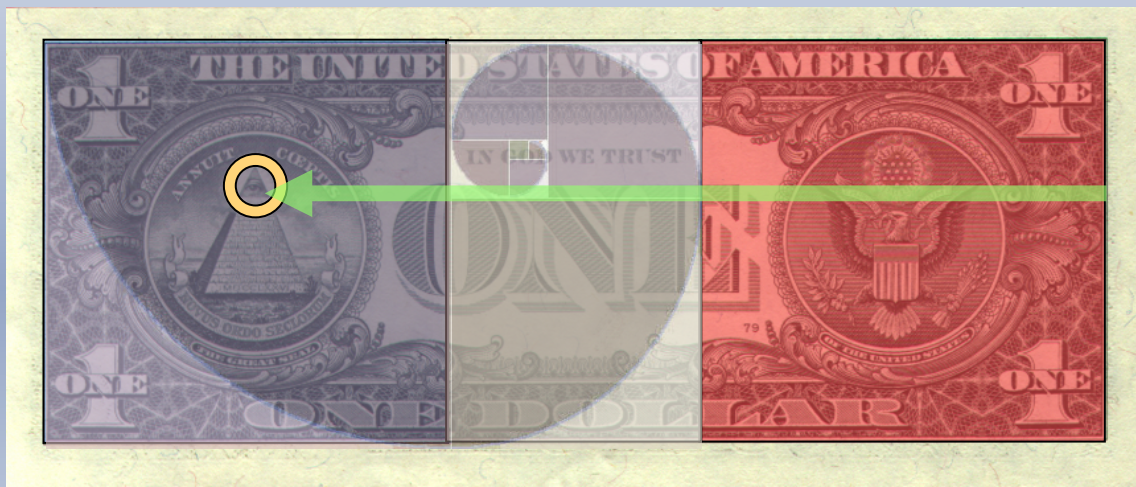


13

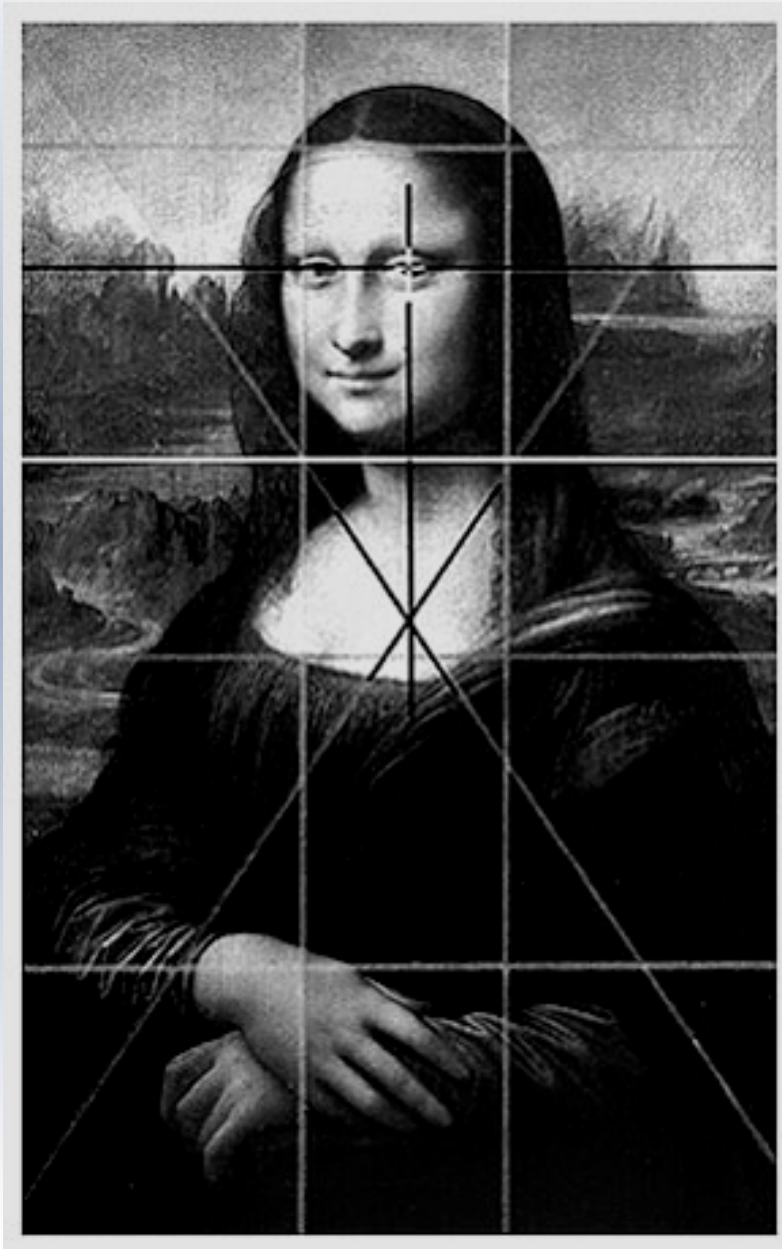
stars





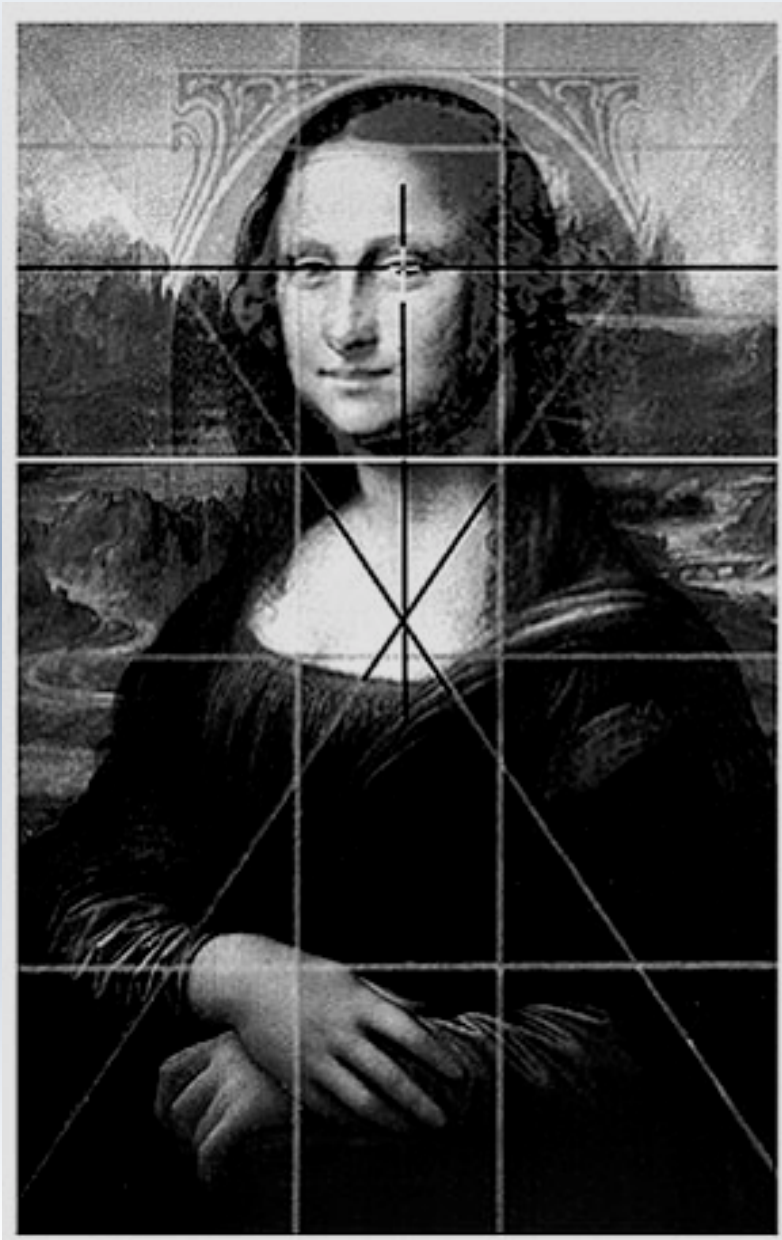


## The real DaVinci code?

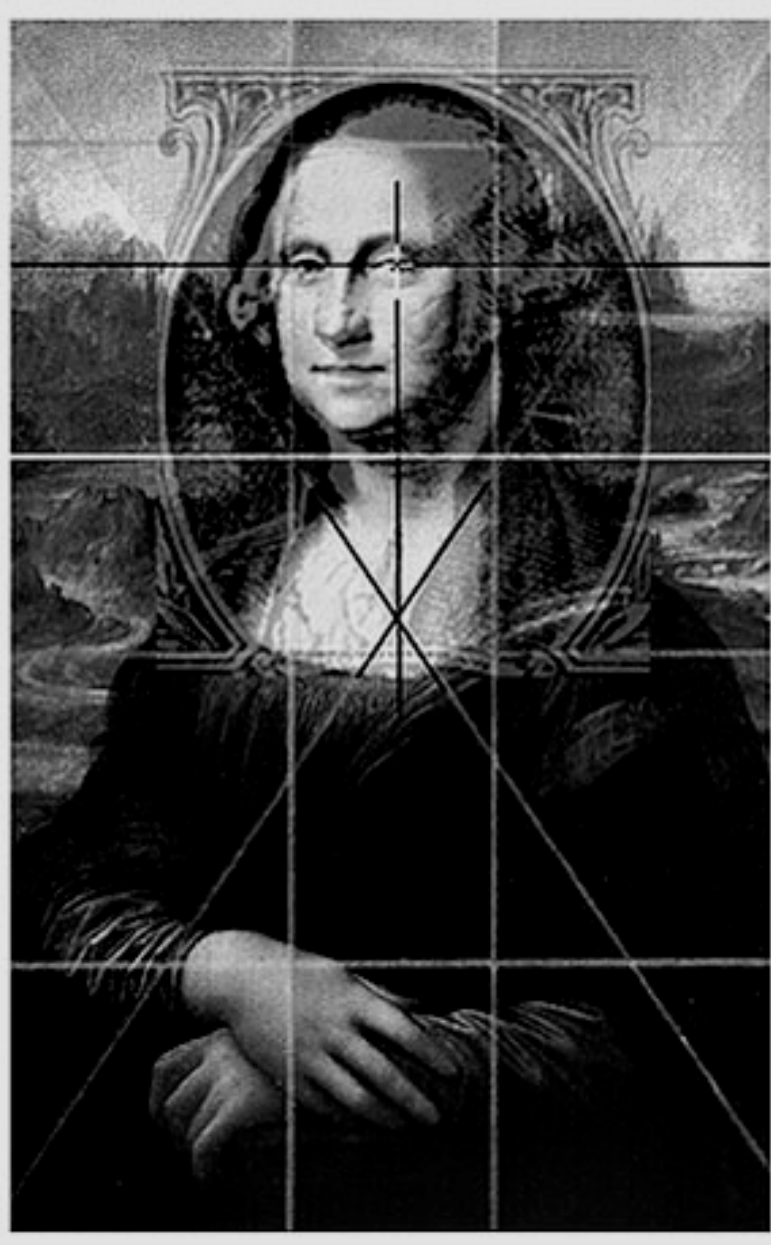


© Brian Curtis - 2004





© Brian Curtis - 2004



© Brian Curtis - 2004





© Brian Curtis - 2004

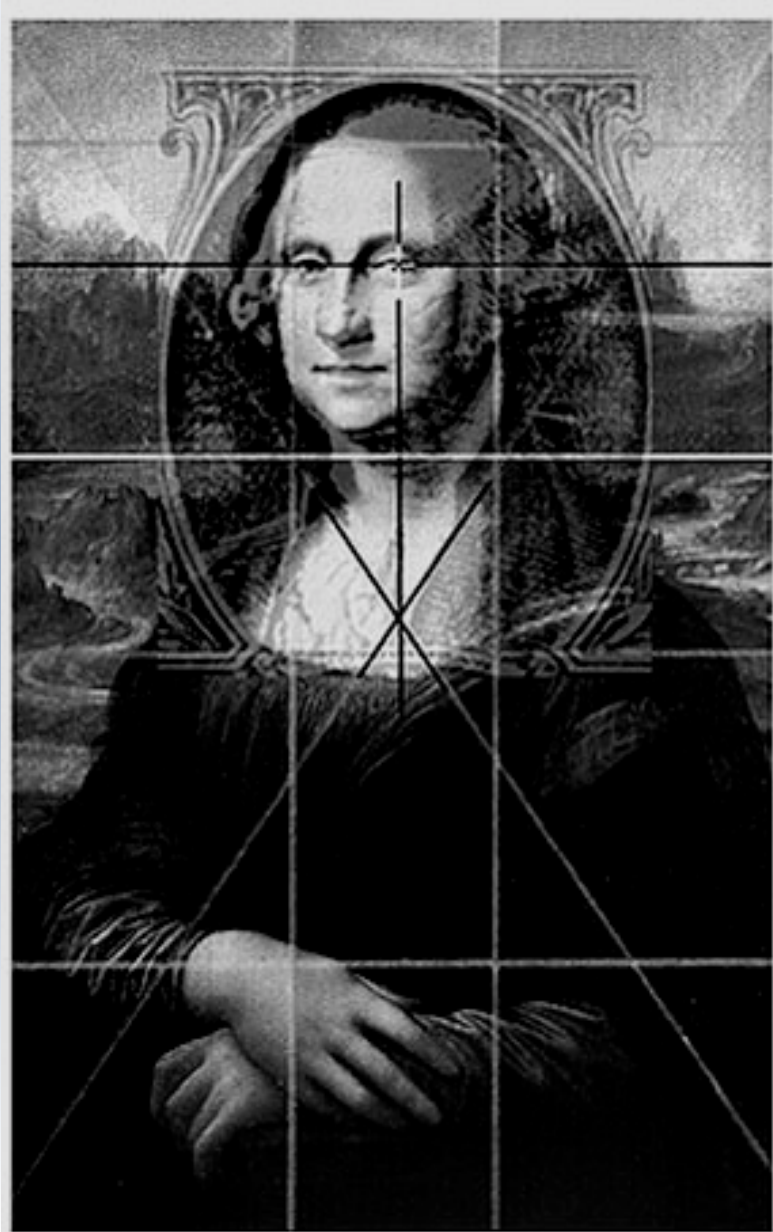


© Brian Curtis - 2004



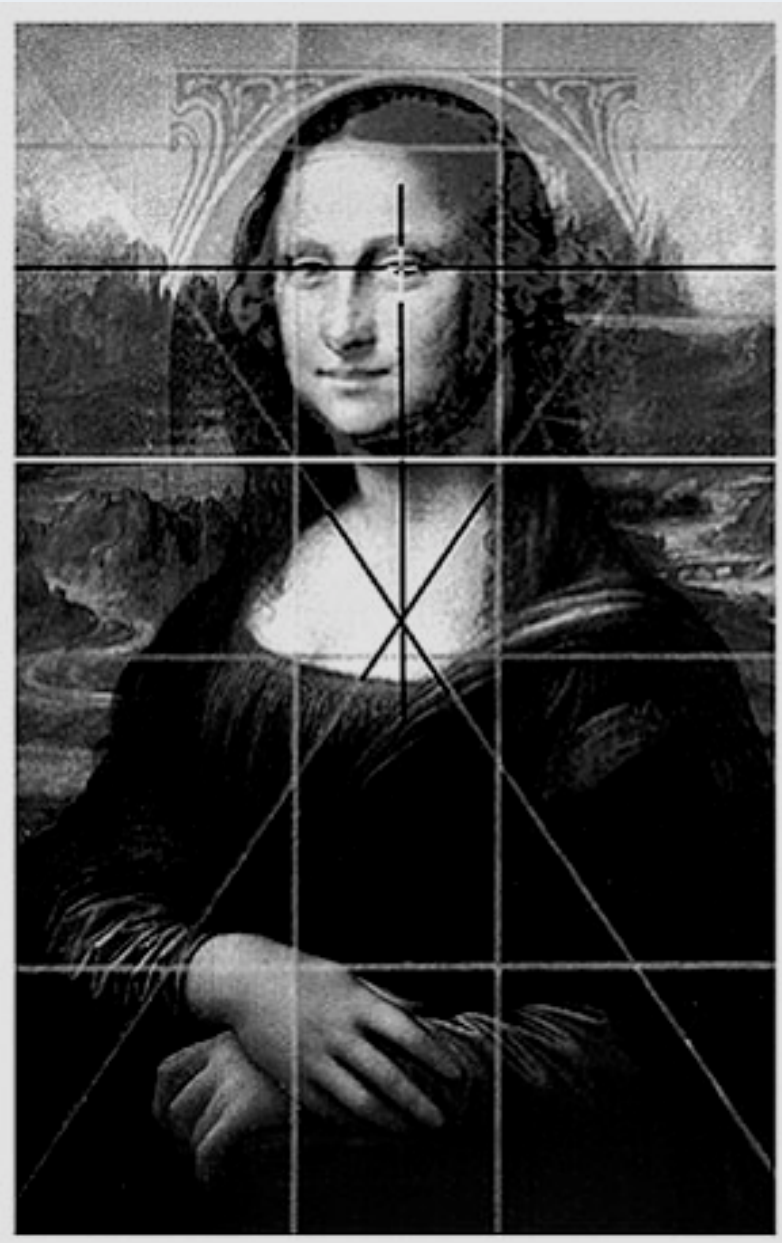


© Brian Curtis - 2004

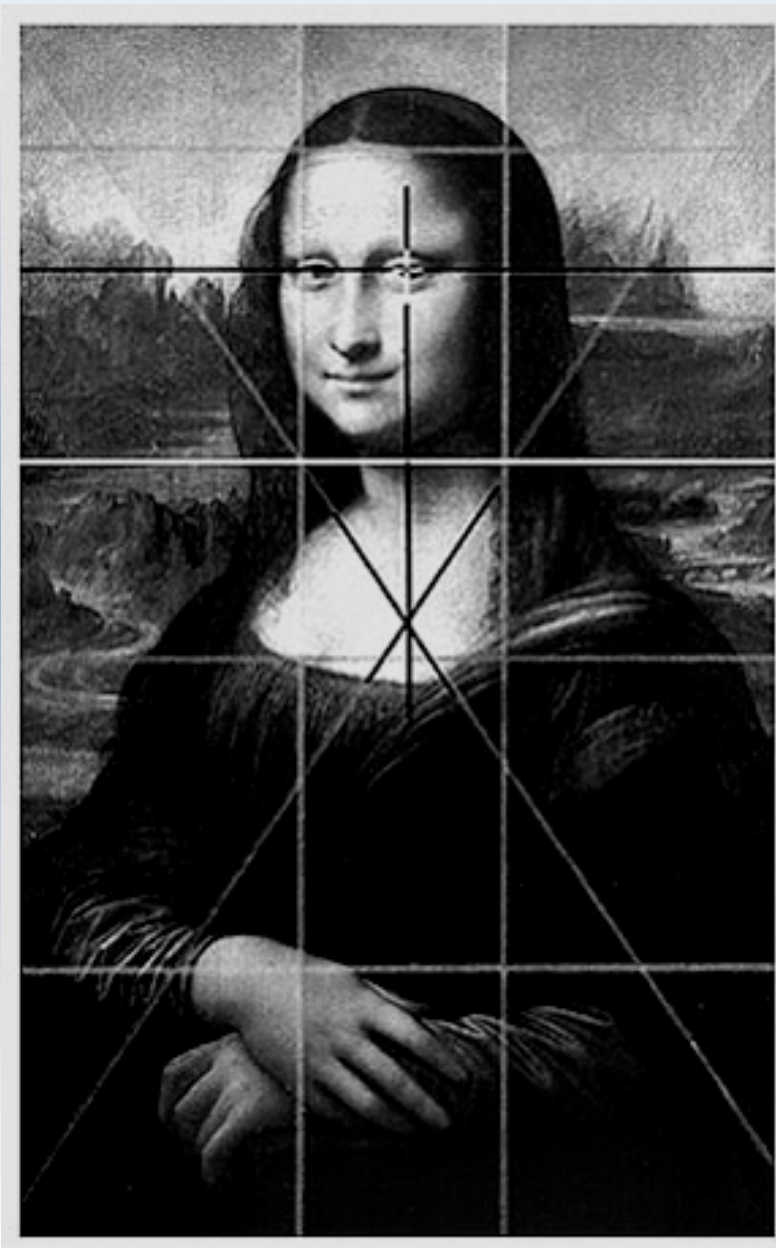


© Brian Curtis - 2004





© Brian Curtis - 2004



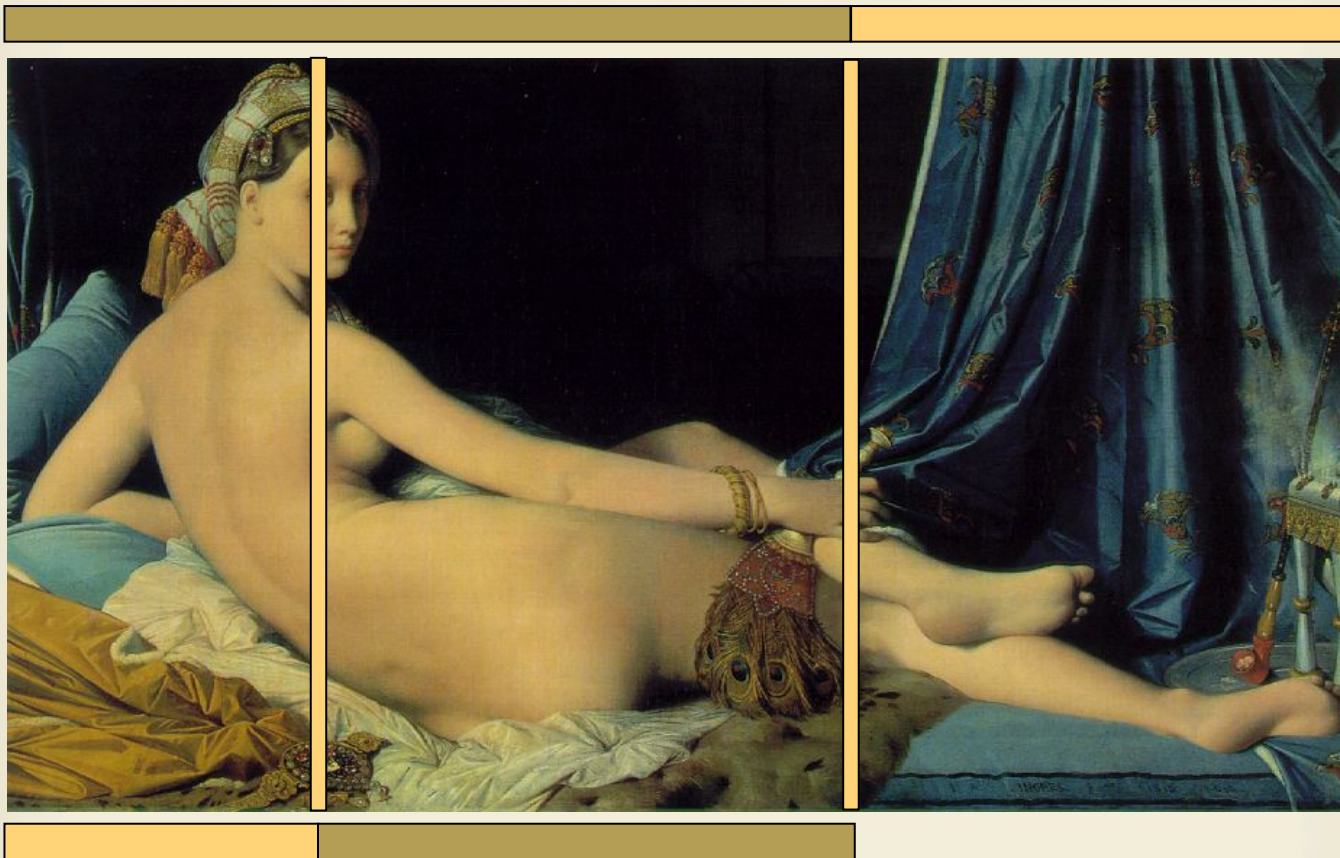
© Brian Curtis - 2004



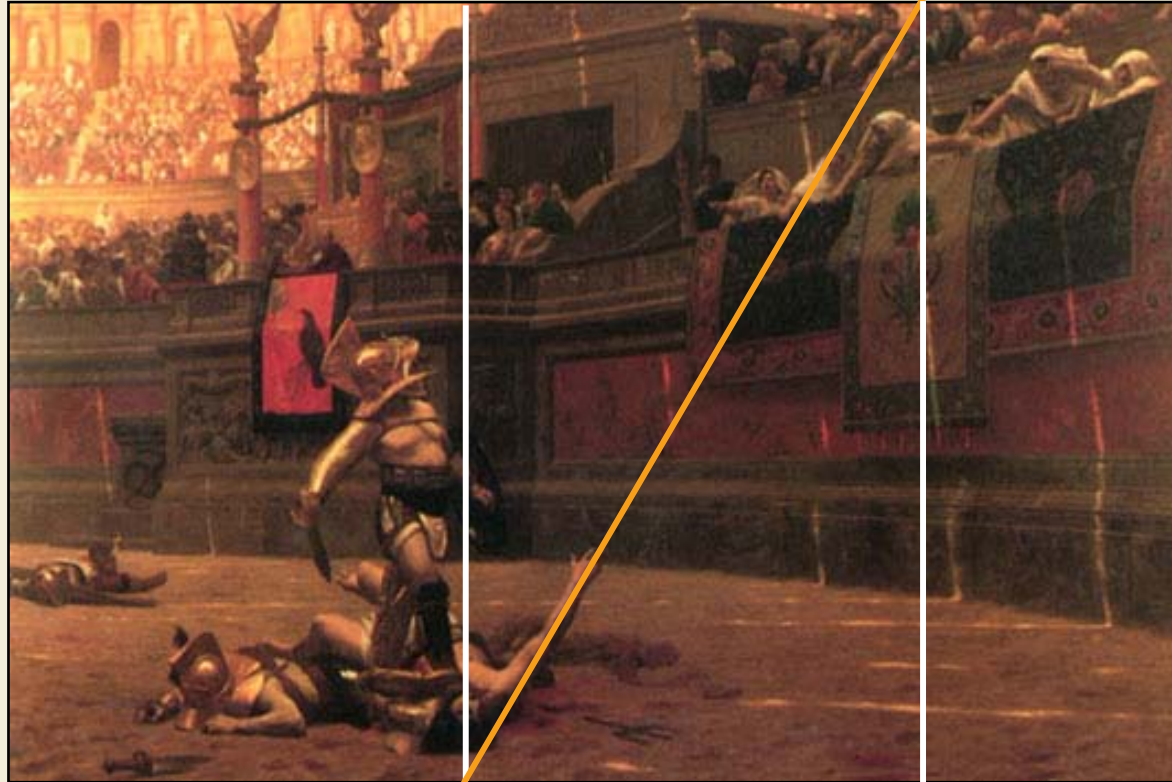
*The interest in the revolutionary principles of liberty, equality, and brotherhood soon contributed to sweeping social and political transformations in France, South America, Texas and Mexico. Freemasons again played crucial roles in each of these political revolutions. Among them were **Simon de Bolivar, Jose de San Martin, Benito Juarez, and Sam Houston.***

# ***Nineteenth Century***



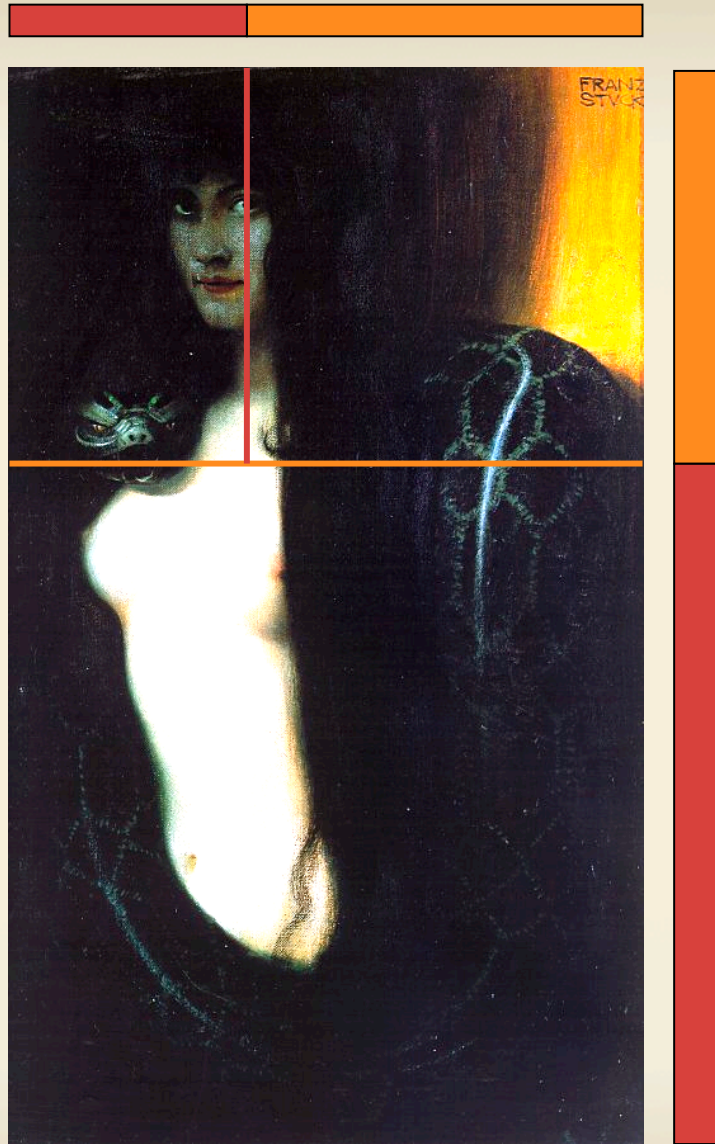


**The Grand Odalesque** by *Jean-Dominique Ingres* 1814



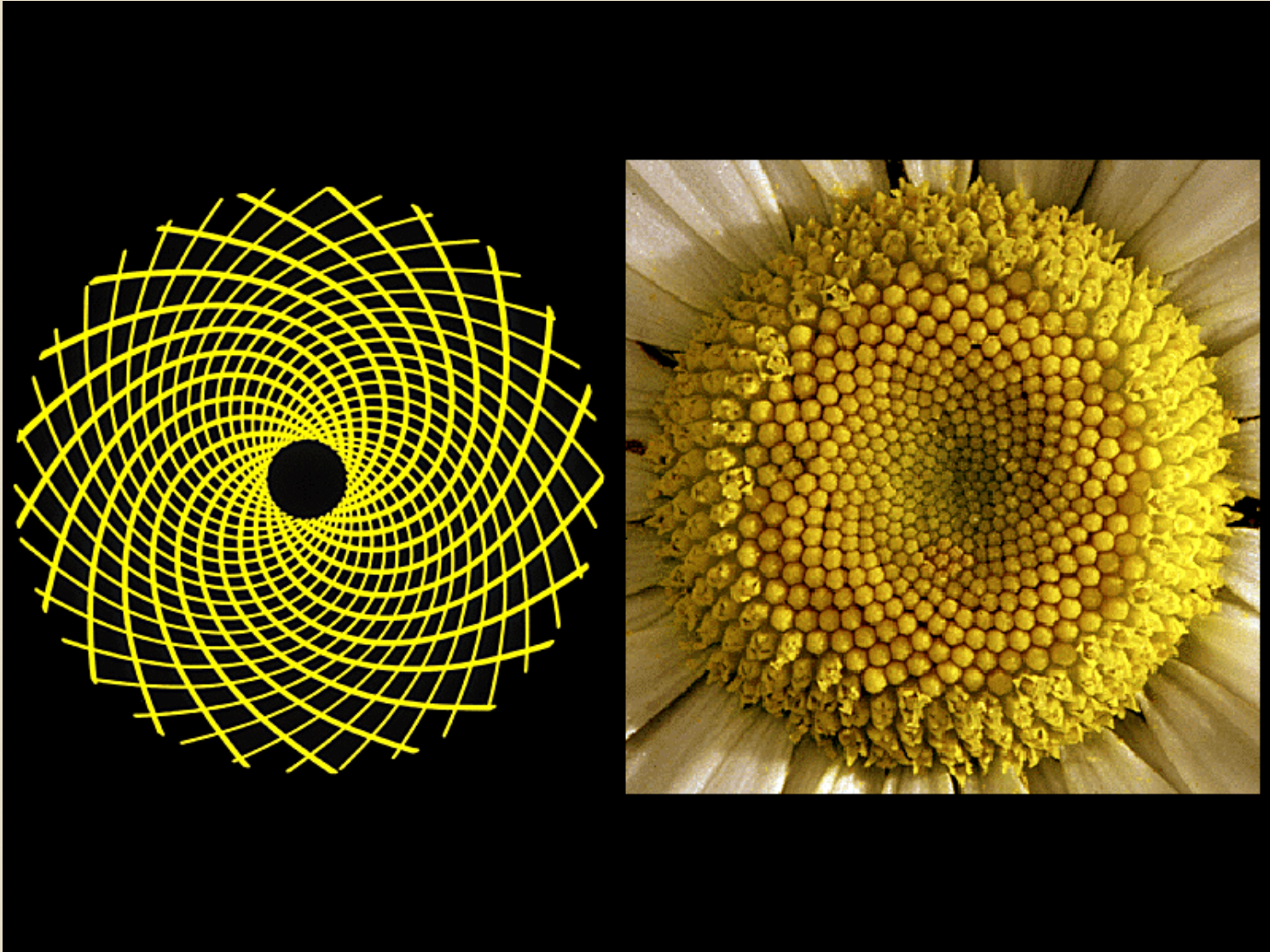
*Pollice Verso (thumbs down)* by Jean-Léon Gerome - 1872





© Brian Curtis - 2004

SIN by *Franz von Stuck* 1893



© Brian Curtis - 2004





© Brian Curtis - 2004



In **1835** a botanist observed that the seeds in the center of a sunflower are arranged in two sets of multiple spirals that begin in the center and curve outward in opposite directions.

*In 98% of all sunflowers the number of spirals for both directions are successive Fibonacci Numbers*

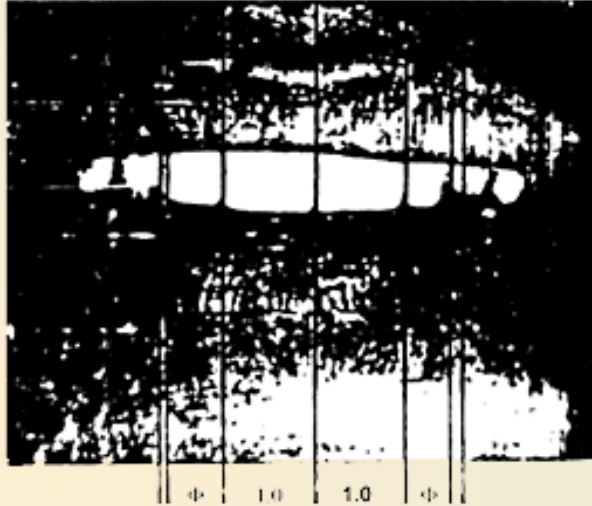


*The largest sunflower on record had 144 spirals in one direction and 233 in the other*

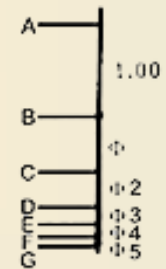


# 1835

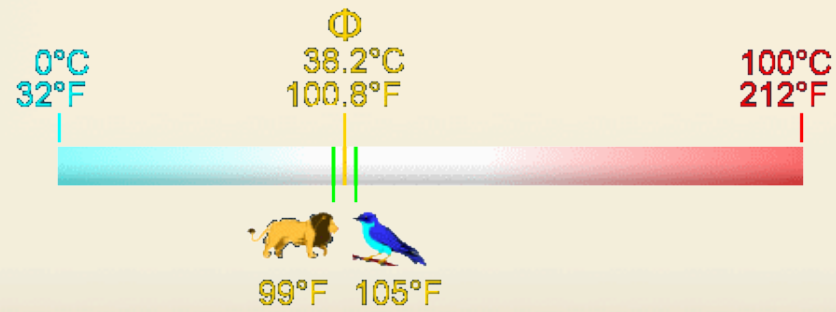
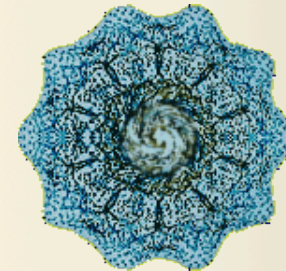
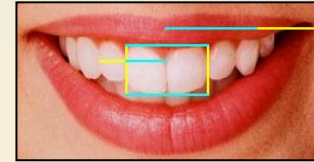
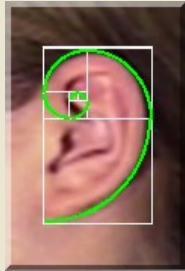
*With the discovery of **Fibonacci Sequence** numbers within the swirls in sunflowers science had again established a concrete connection between a natural growth pattern and the mystical mathematical tradition identified with **Pythagoras** that held that the dynamic generating force of the universe was accessible through the study of number and shape. (it had been in **1753** that the relationship had been observed in the generation pattern of bees) This discovery was the first of progressively large number of observations that have validated the presence of this long revered unifying principle as the common proportion underlying the multiplicity of forms in nature.*

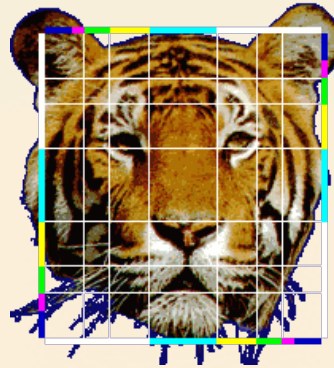
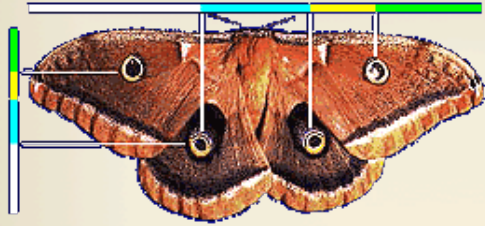


The **Golden Mean** grid on the right is identical to the grid used in the four tooth set up in the picture above as well as that in the progressively diminishing proportions of the fern on the left.

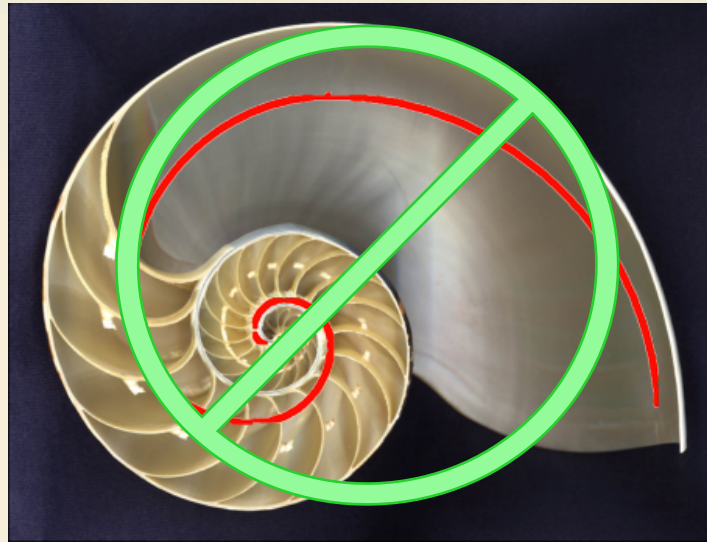












*In contrast to popular belief and just about every book and website on the subject, the Nautilus shell growth ratio, though equiangular and incredibly beautiful, does not match that of the Golden Mean spiral*

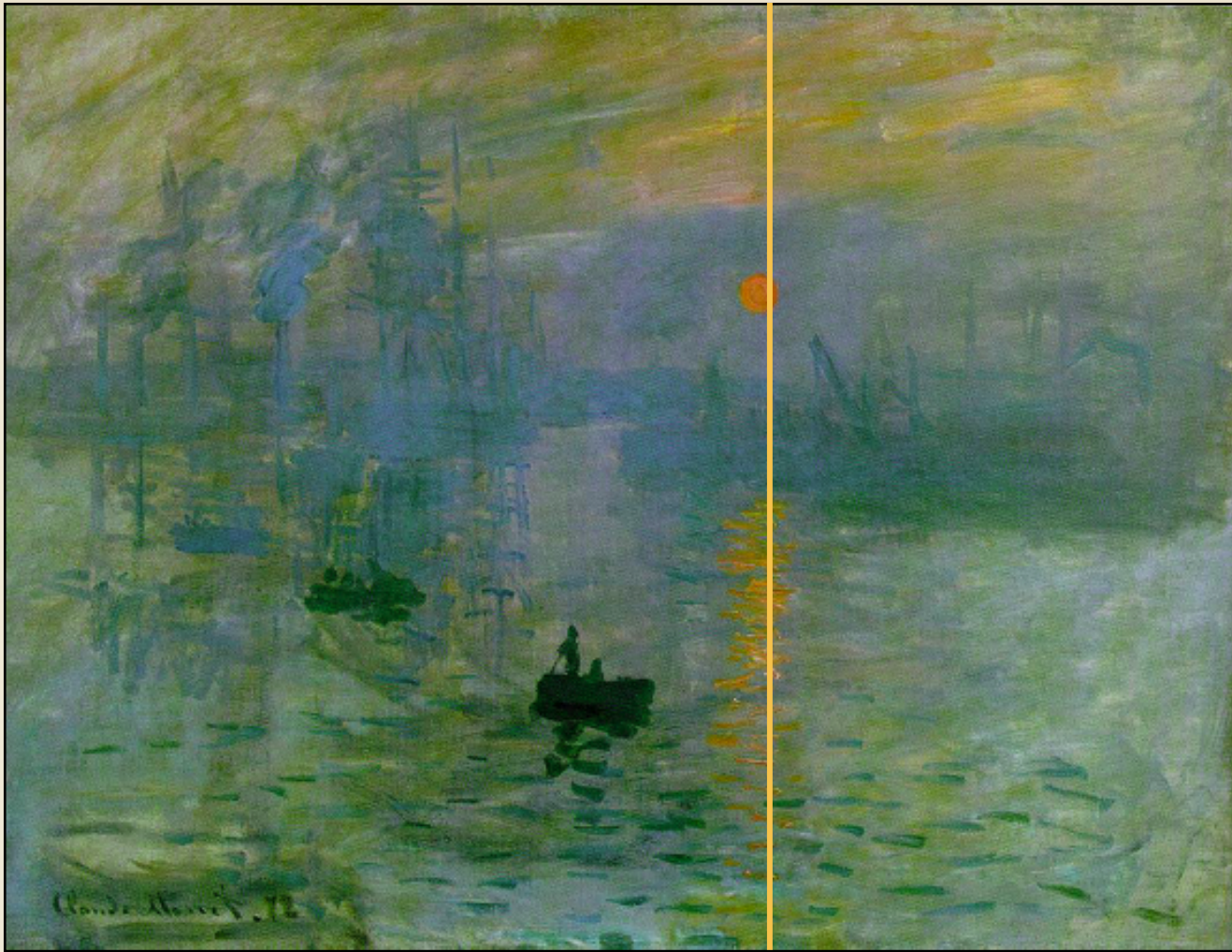
# ***Back to Basics***

*Perhaps in response to the discoveries being made by science concerning the golden mean or perhaps in response to a general increase in interest in spirituality in the latter half of the nineteenth-century artists began to challenge the theatrical superficiality that had come to dominate popular art. These artists not only utilized **Phi** as a compositional formula but seemed determined once again to incorporate it in ways that reflect a **conscious return to a simpler and yet more profound understanding of the Golden Mean's spiritual resonance, visual effectiveness and timeless harmony.***





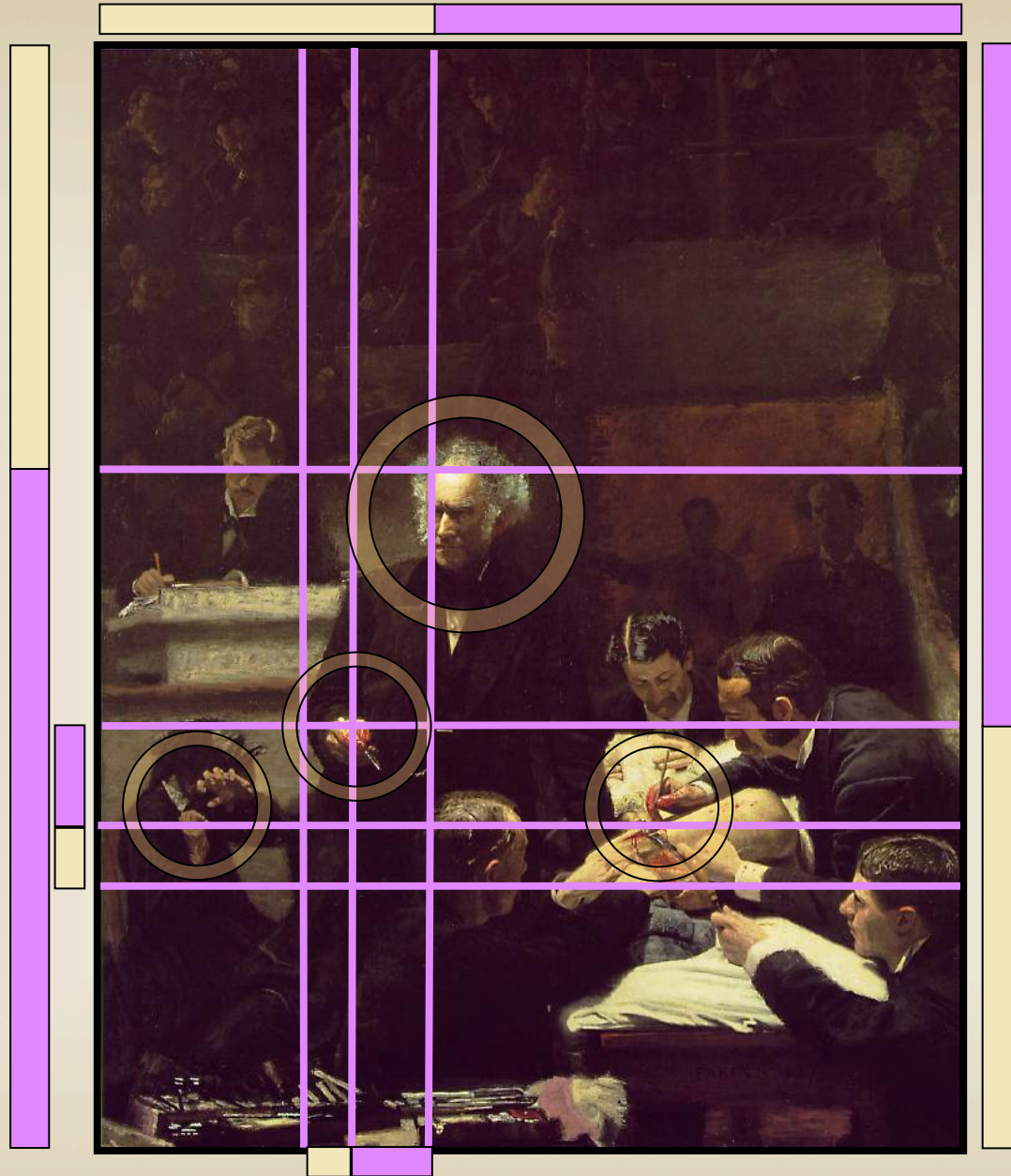
**Heaving of Coals by Moonlight** by Joseph Mallord William Turner - 1835



**Impression Sunrise** by Claude Monet 1872

© Brian Curtis - 2004





© Brian Curtis - 2004

*The Gross Clinic* by Thomas Eakins - 1875



**“La Parade”** by Georges Seurat - 1887-88





**Crows over a Cornfield** by Vincent Van Gogh - 1890

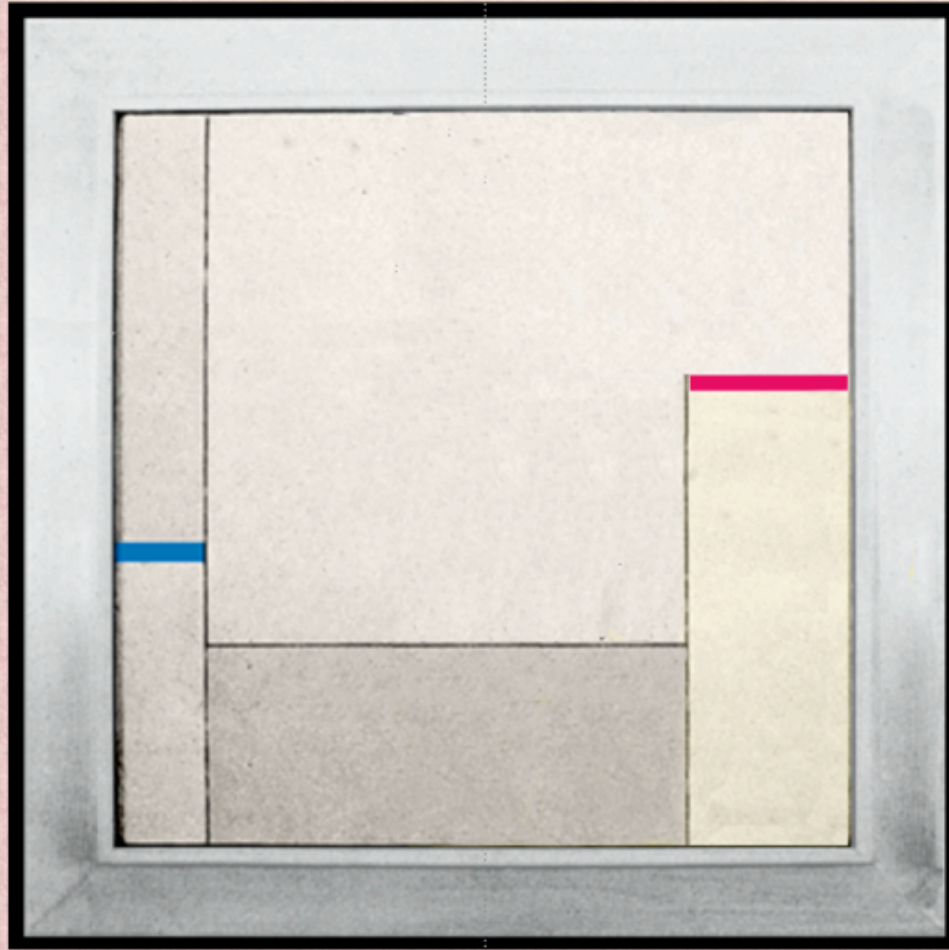




*The Peppermint Bottle by Paul Cezanne - 1894*



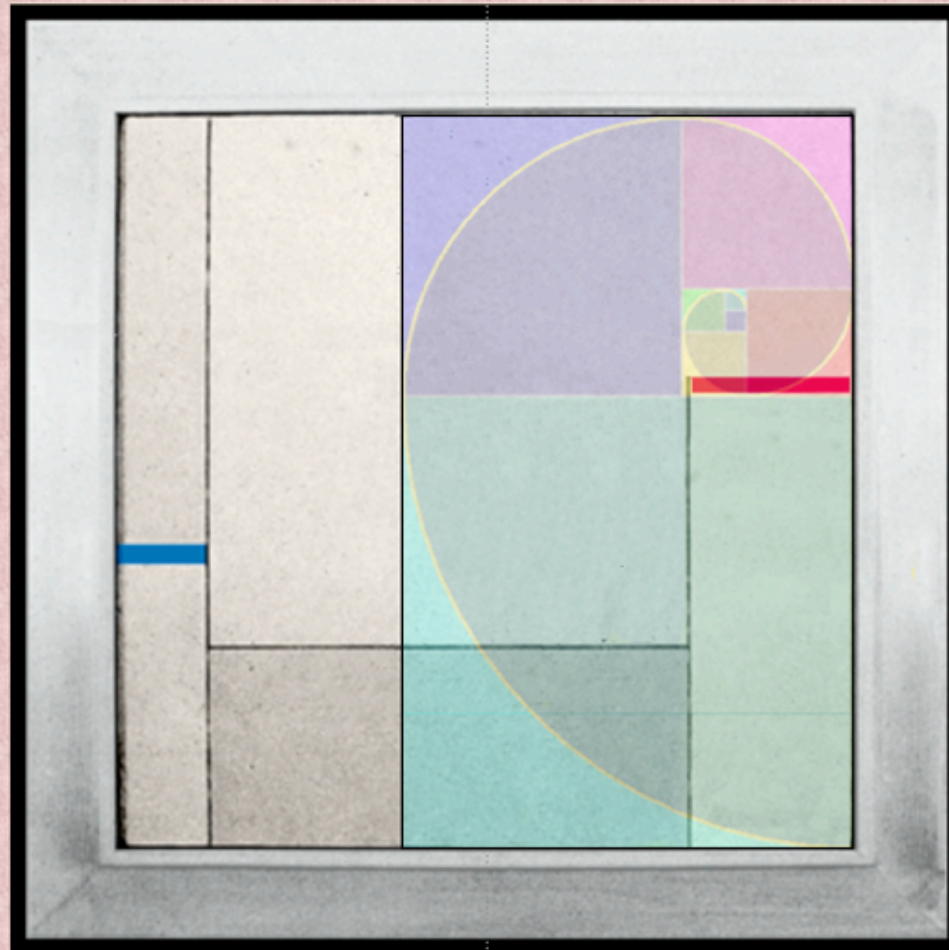
# ***Twentieth Century***



**Burgoyne Diller**  
20th Century American

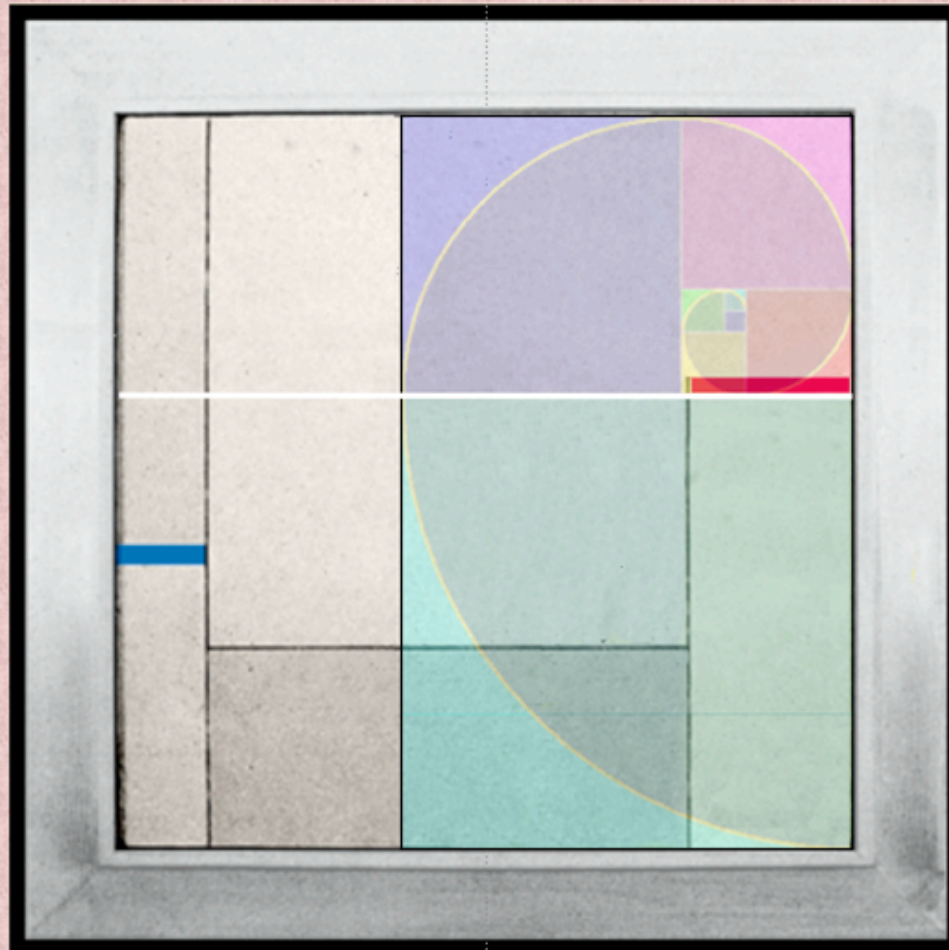
© Brian Curtis - 2004





**Burgoyne Diller**  
20th Century American

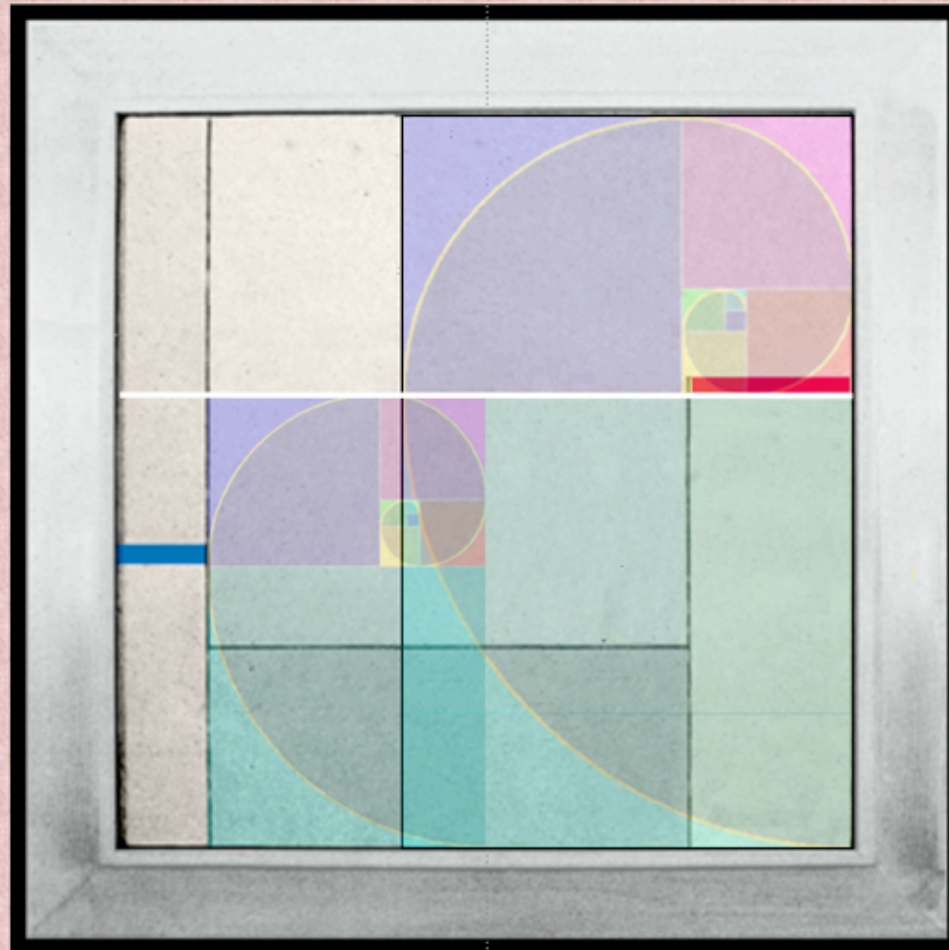
© Brian Curtis - 2004



**Burgoyne Diller**  
20th Century American

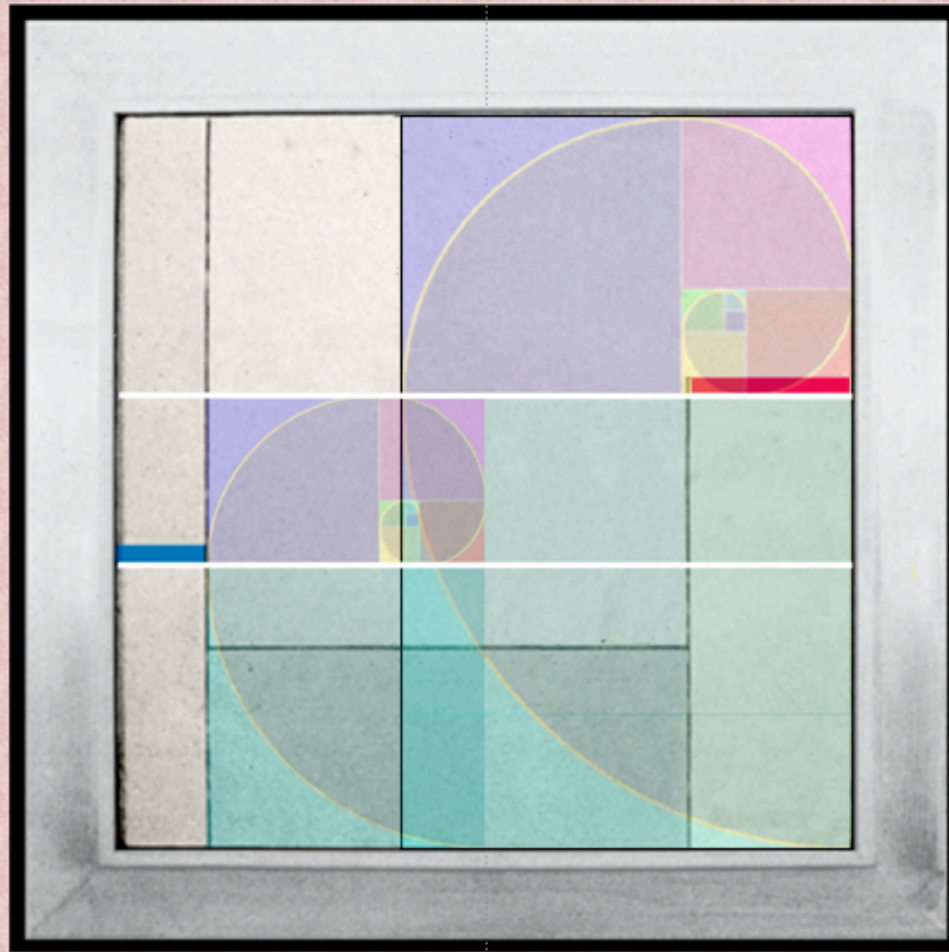
© Brian Curtis - 2004





**Burgoyne Diller**  
20th Century American

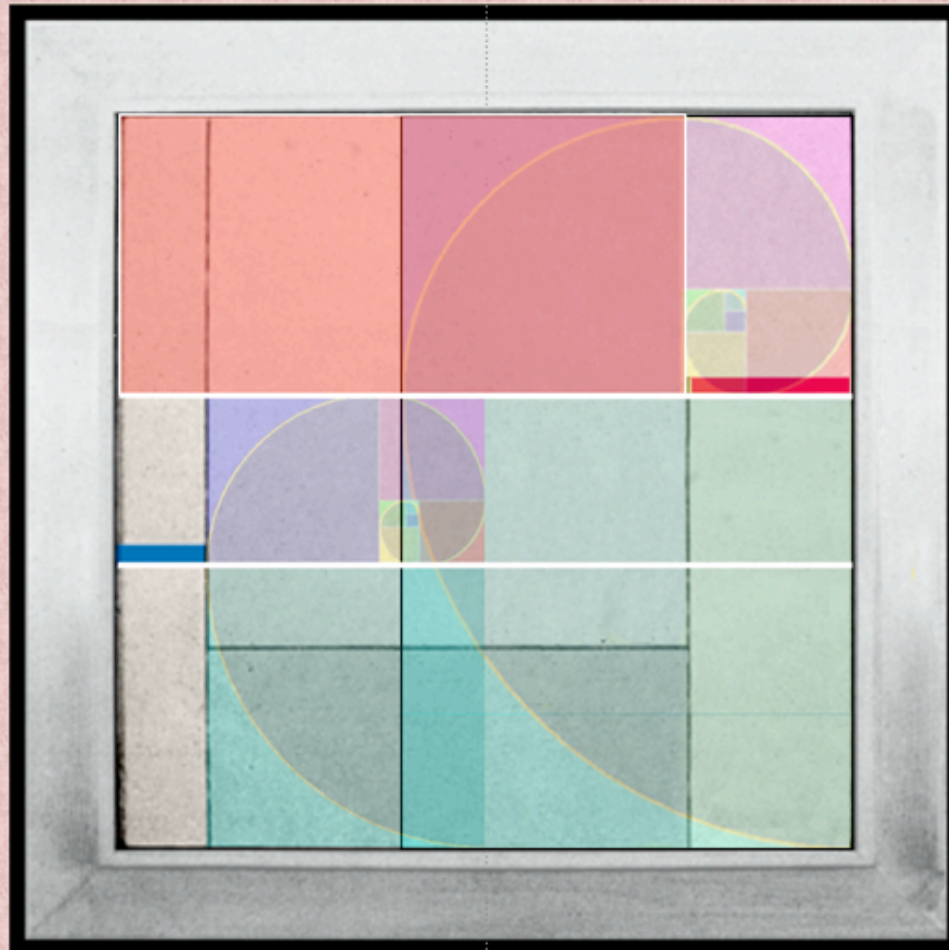
© Brian Curtis - 2004



**Burgoyne Diller**  
20th Century American

© Brian Curtis - 2004

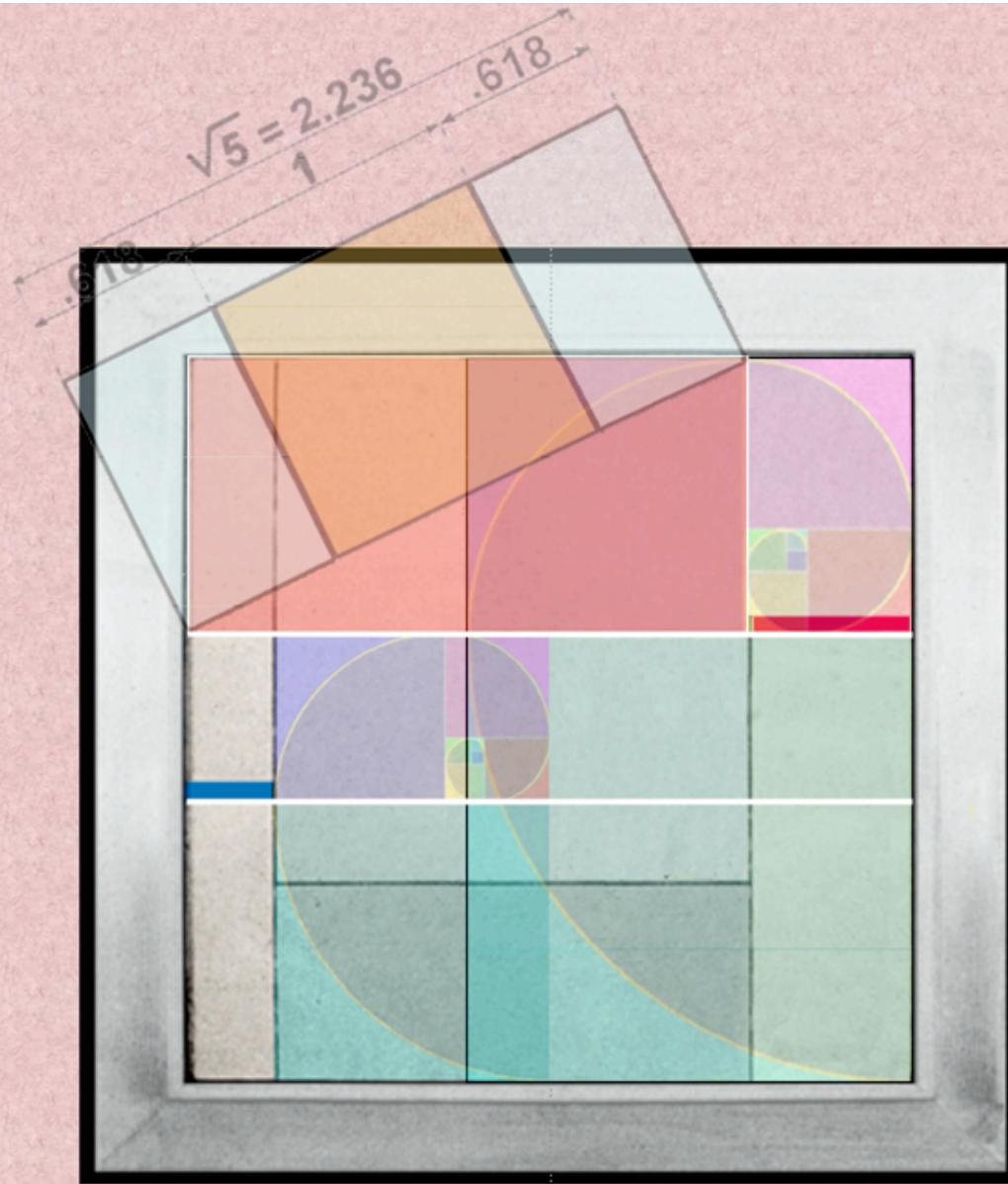




**Burgoyne Diller**  
20th Century American

© Brian Curtis - 2004

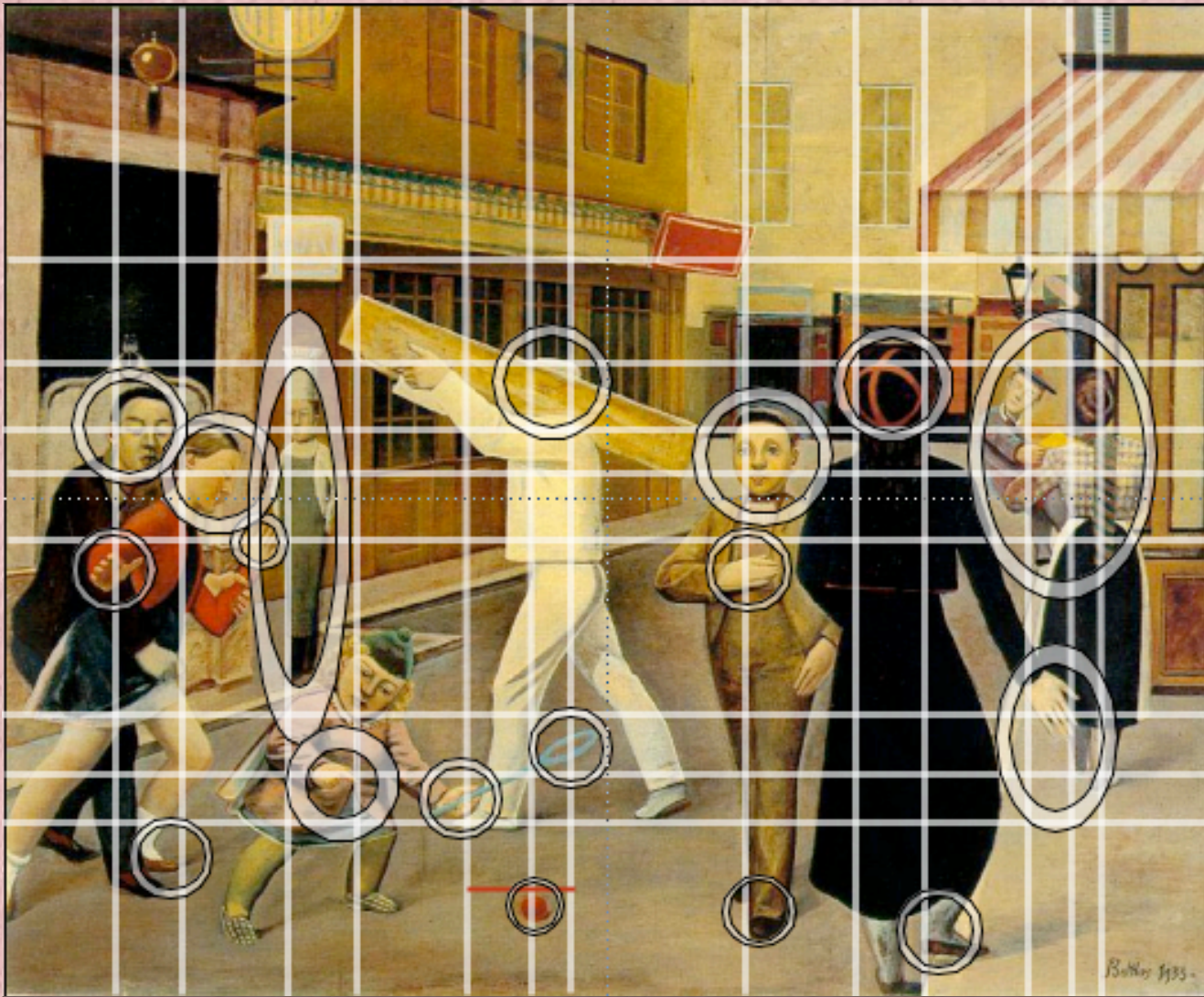




**Burgoyne Diller**  
20th Century American

© Brian Curtis - 2004



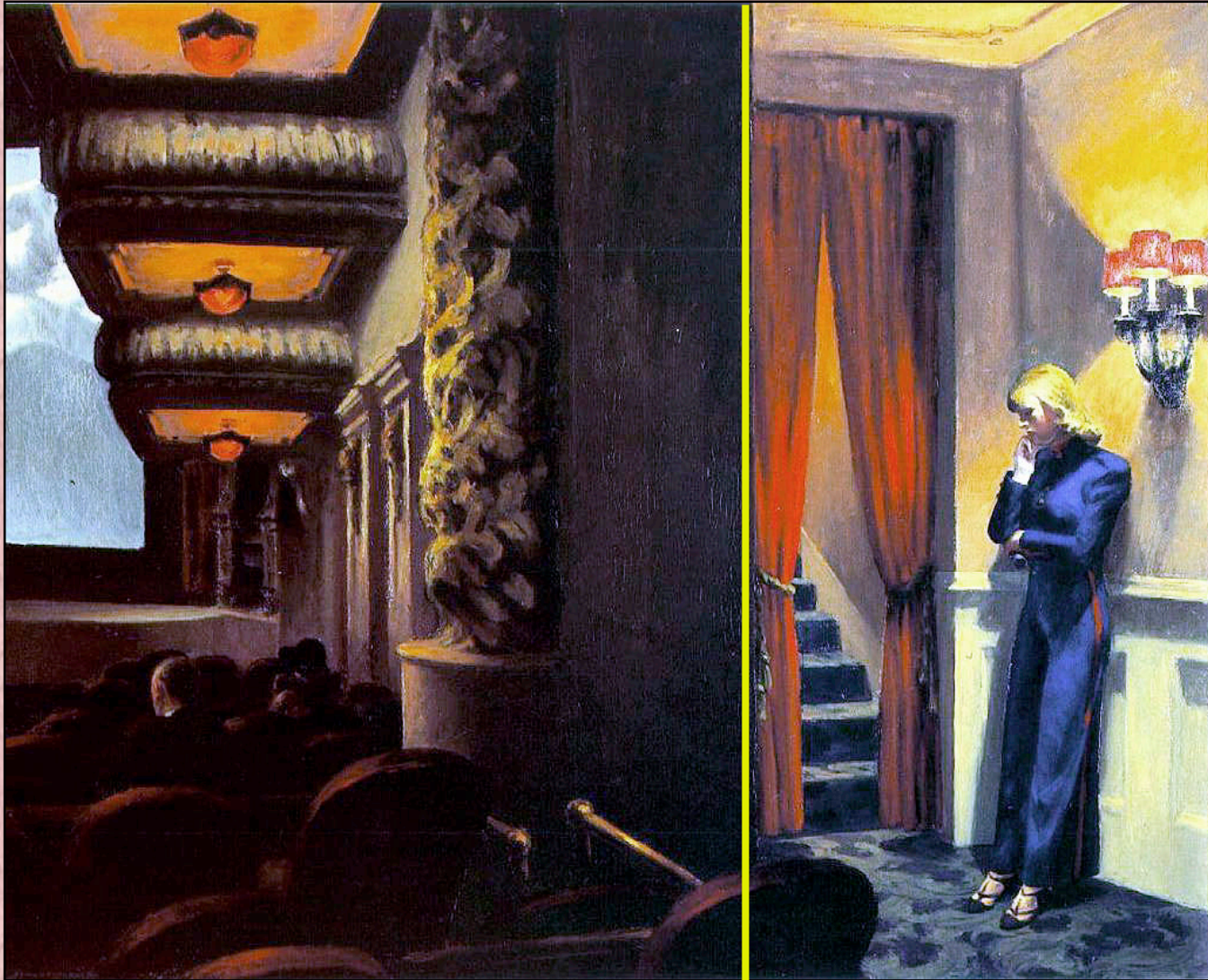


**Balthus (Balthasar Klossowski De Rola)**

“The Street” - 1935

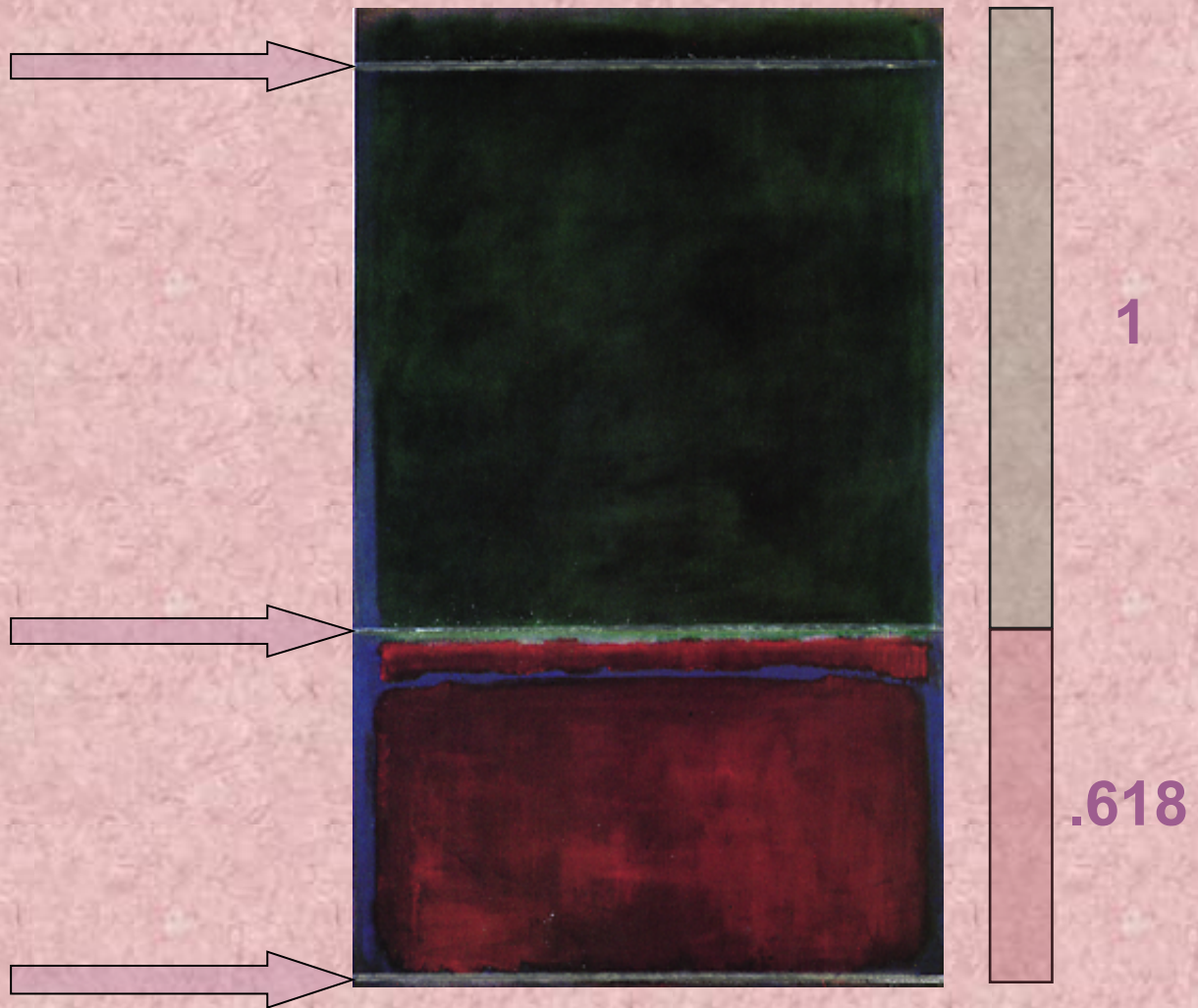
© Brian Curtis - 2004



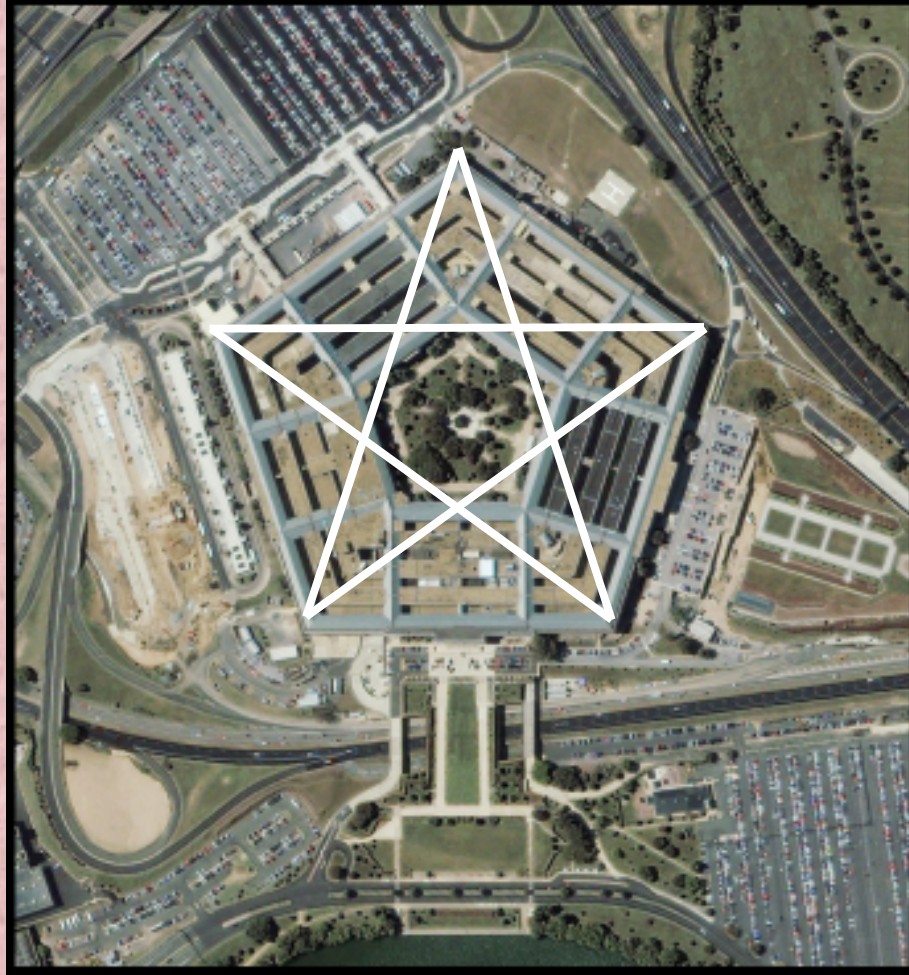


*New York Movie* by Edward Hopper - 1939





Red and Green by Mark Rothko  
1948



United States Department of Defense -  
1941-1943

The Pentagon





**"The Sacrament of the Last Supper" by Salvatore Dali - 1955**

© Brian Curtis - 2004

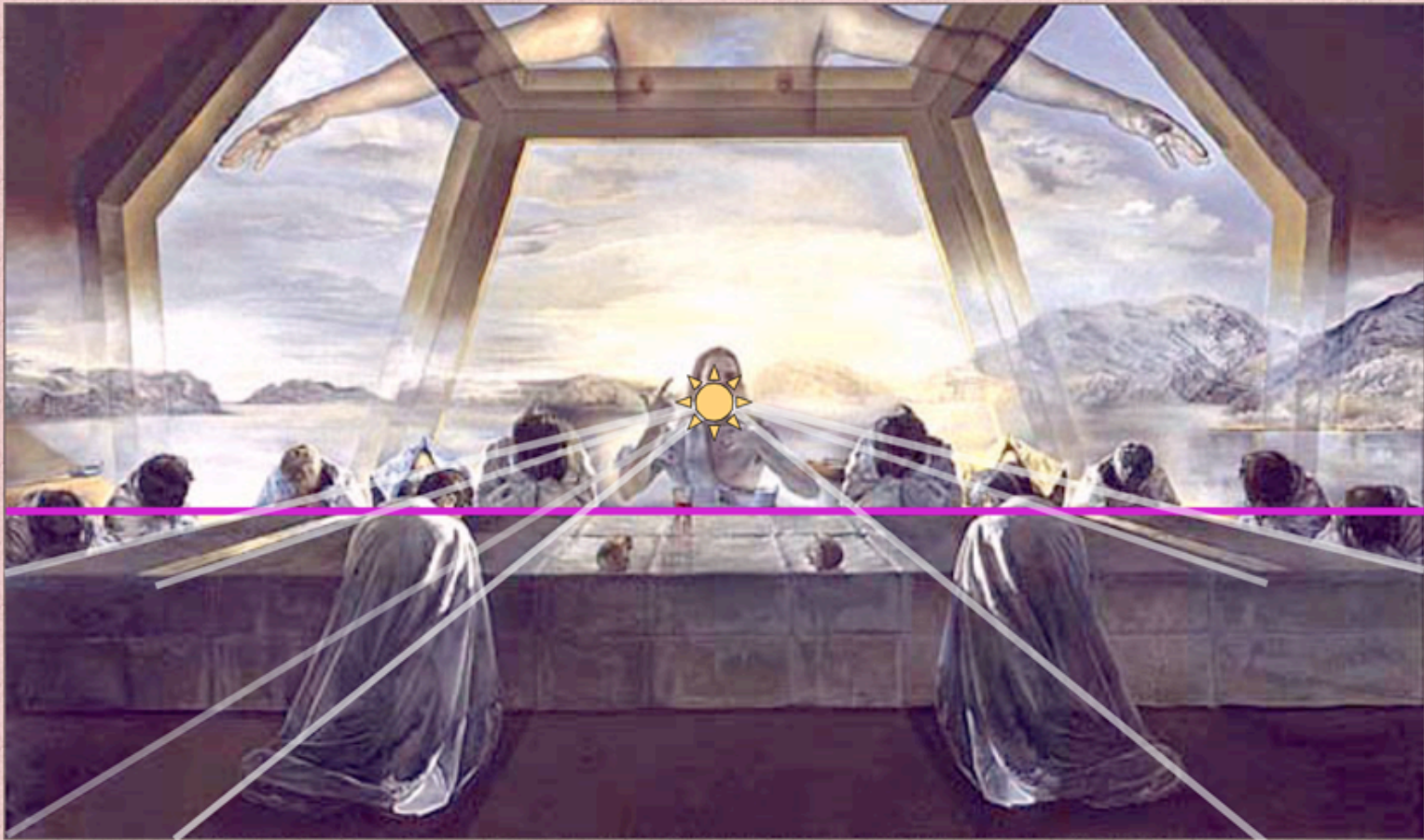




"The Sacrament of the Last Supper" by Salvatore Dali - 1955

© Brian Curtis - 2004

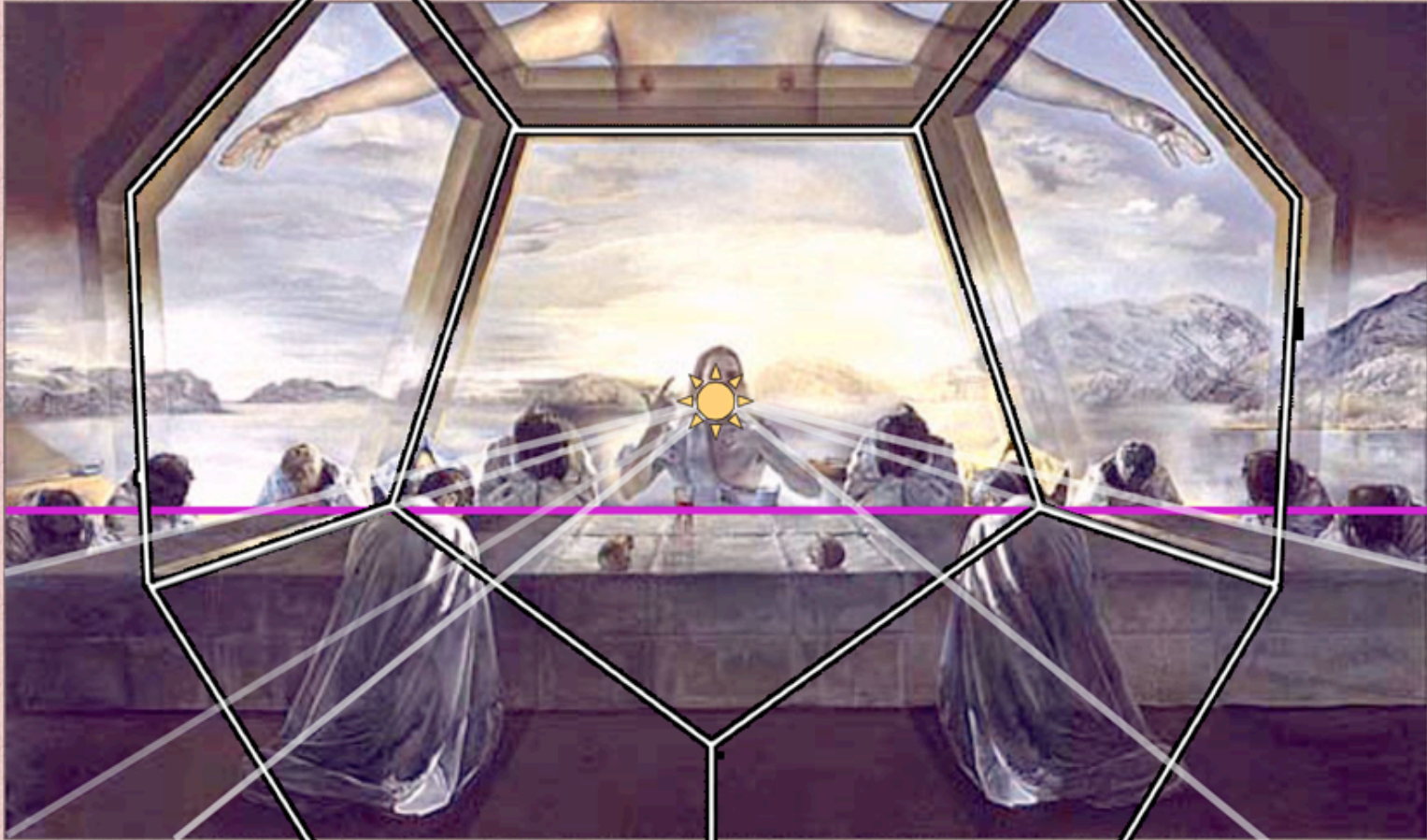




**"The Sacrament of the Last Supper" by Salvatore Dali - 1955**

© Brian Curtis - 2004

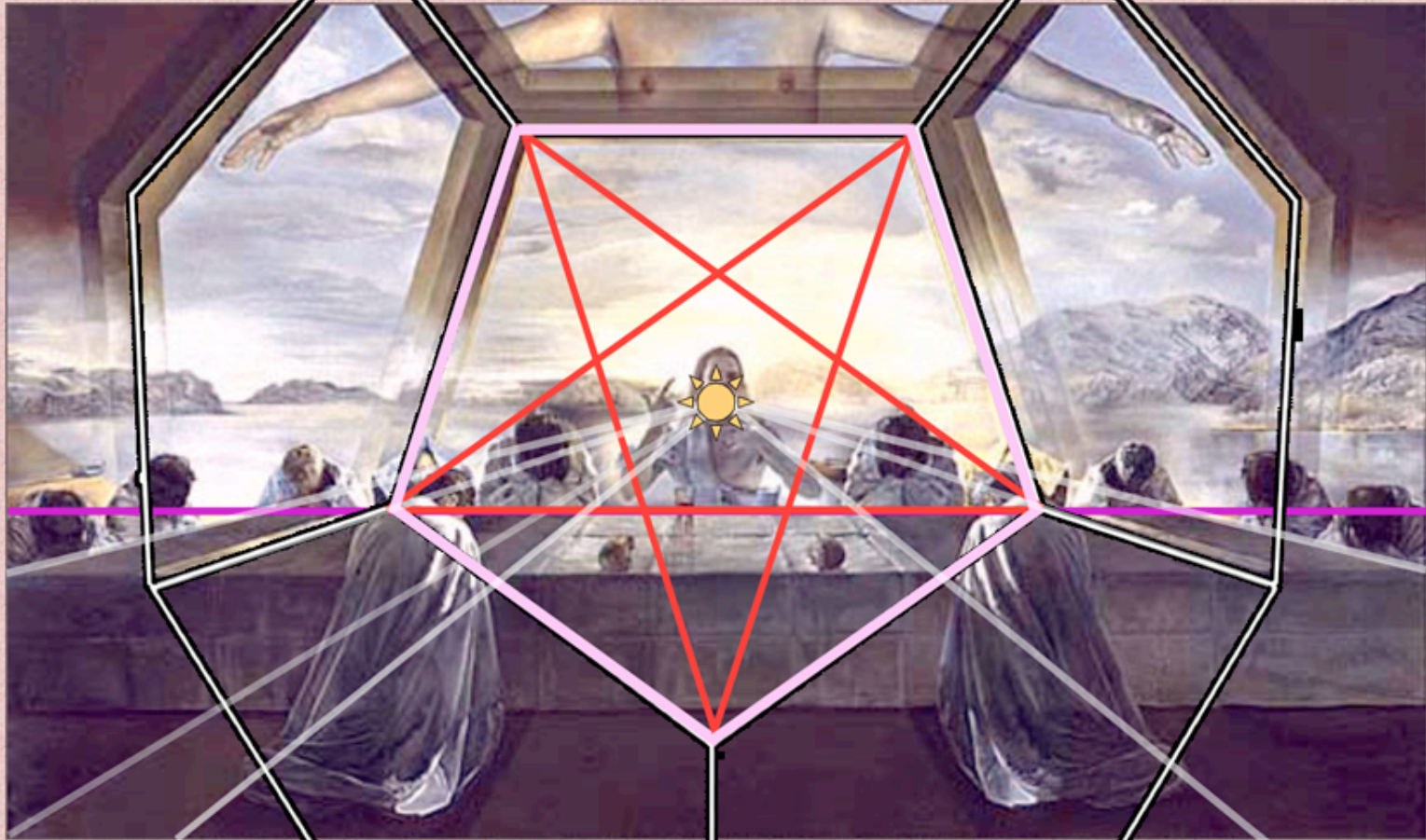




"The Sacrament of the Last Supper" by Salvatore Dali - 1955

© Brian Curtis - 2004

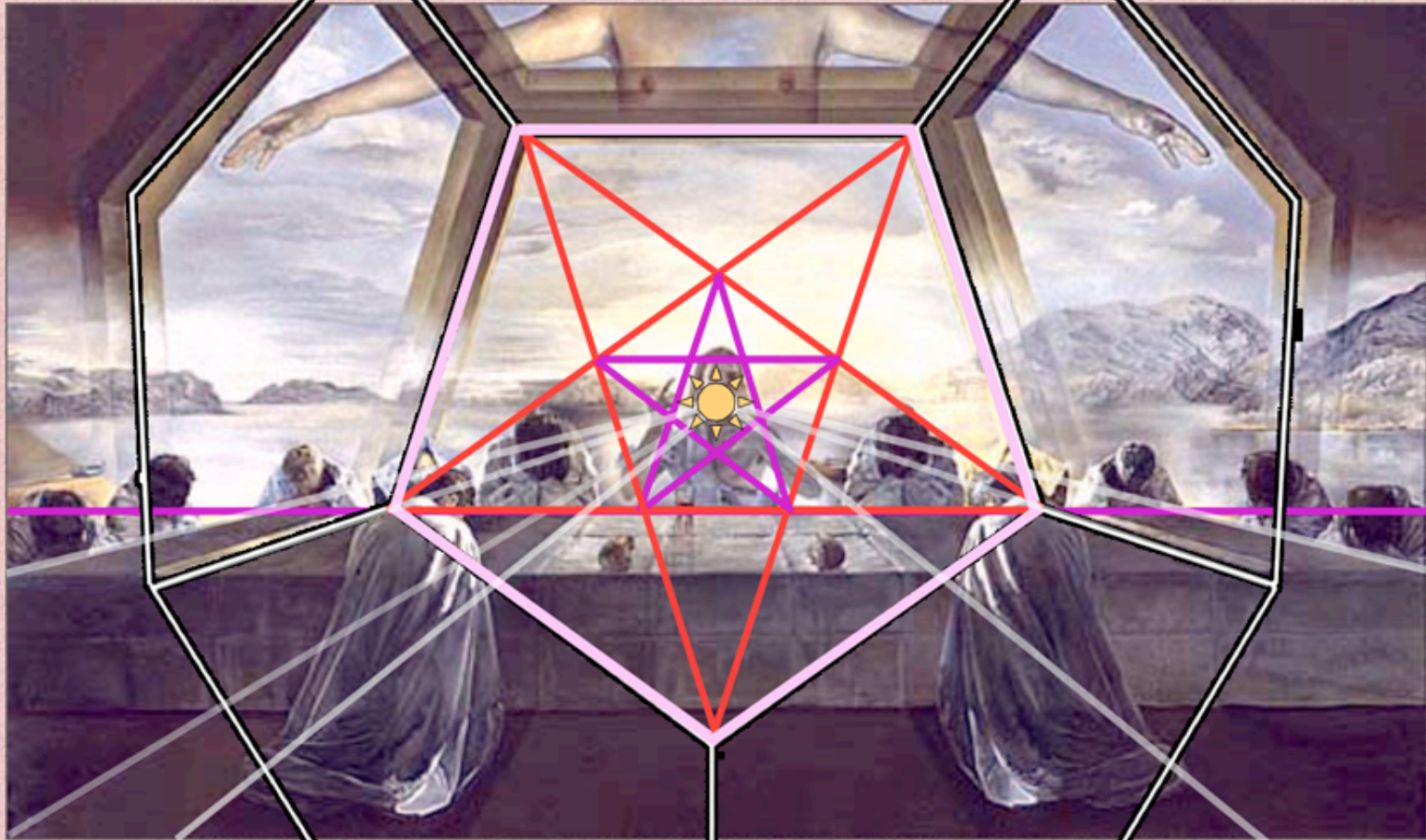




"The Sacrament of the Last Supper" by Salvatore Dali - 1955

© Brian Curtis - 2004

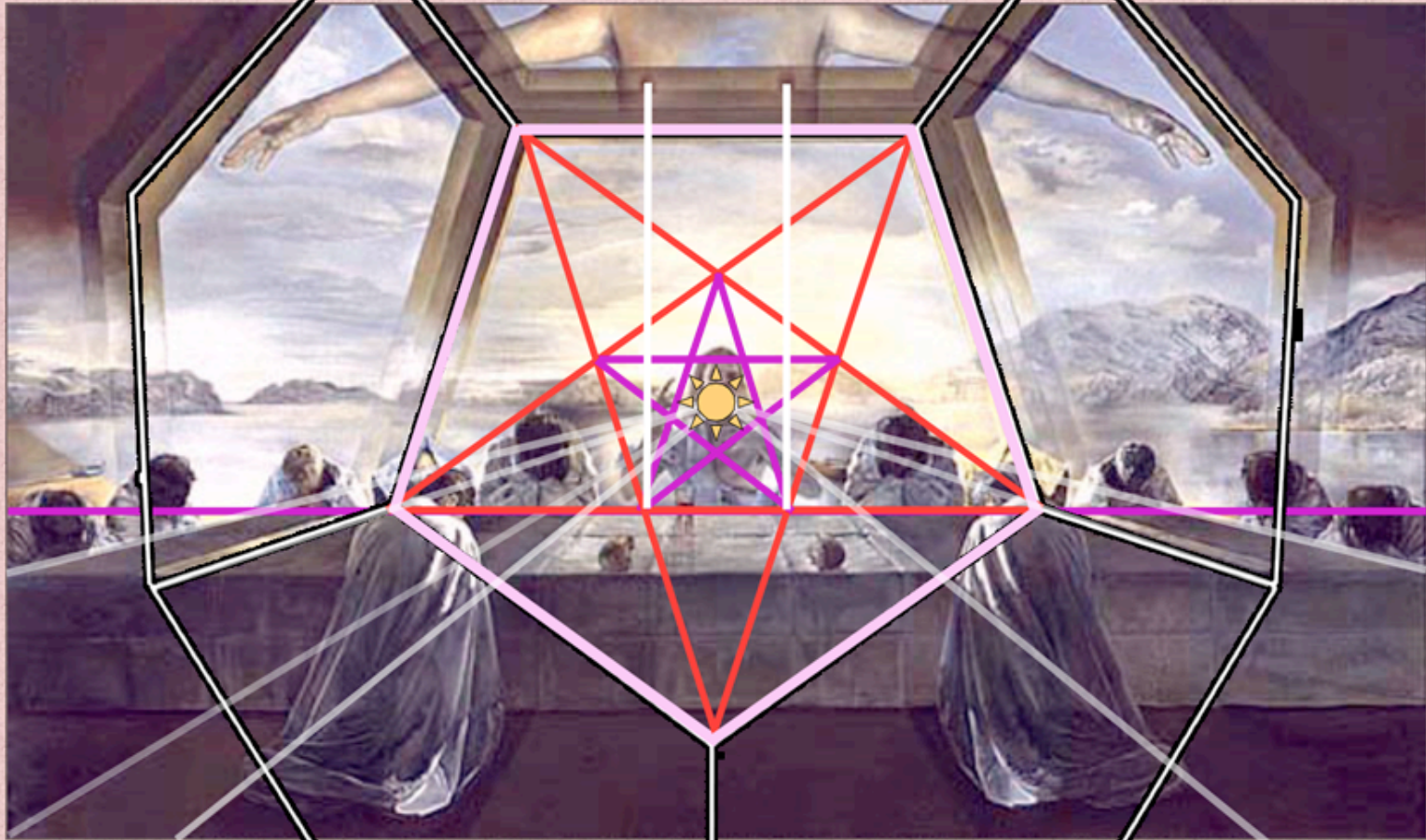




"The Sacrament of the Last Supper" by Salvatore Dali - 1955

© Brian Curtis - 2004

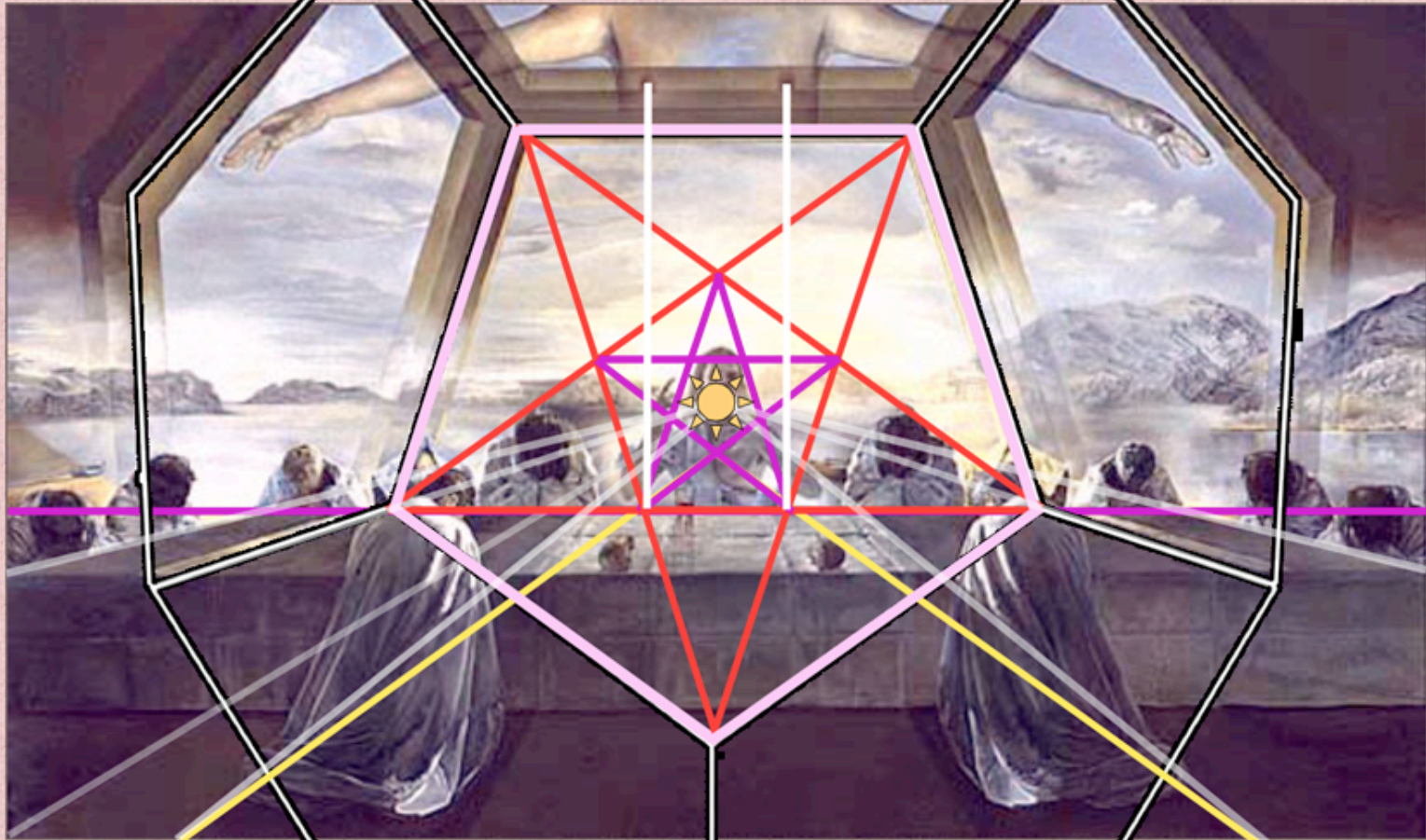




"The Sacrament of the Last Supper" by Salvatore Dali - 1955

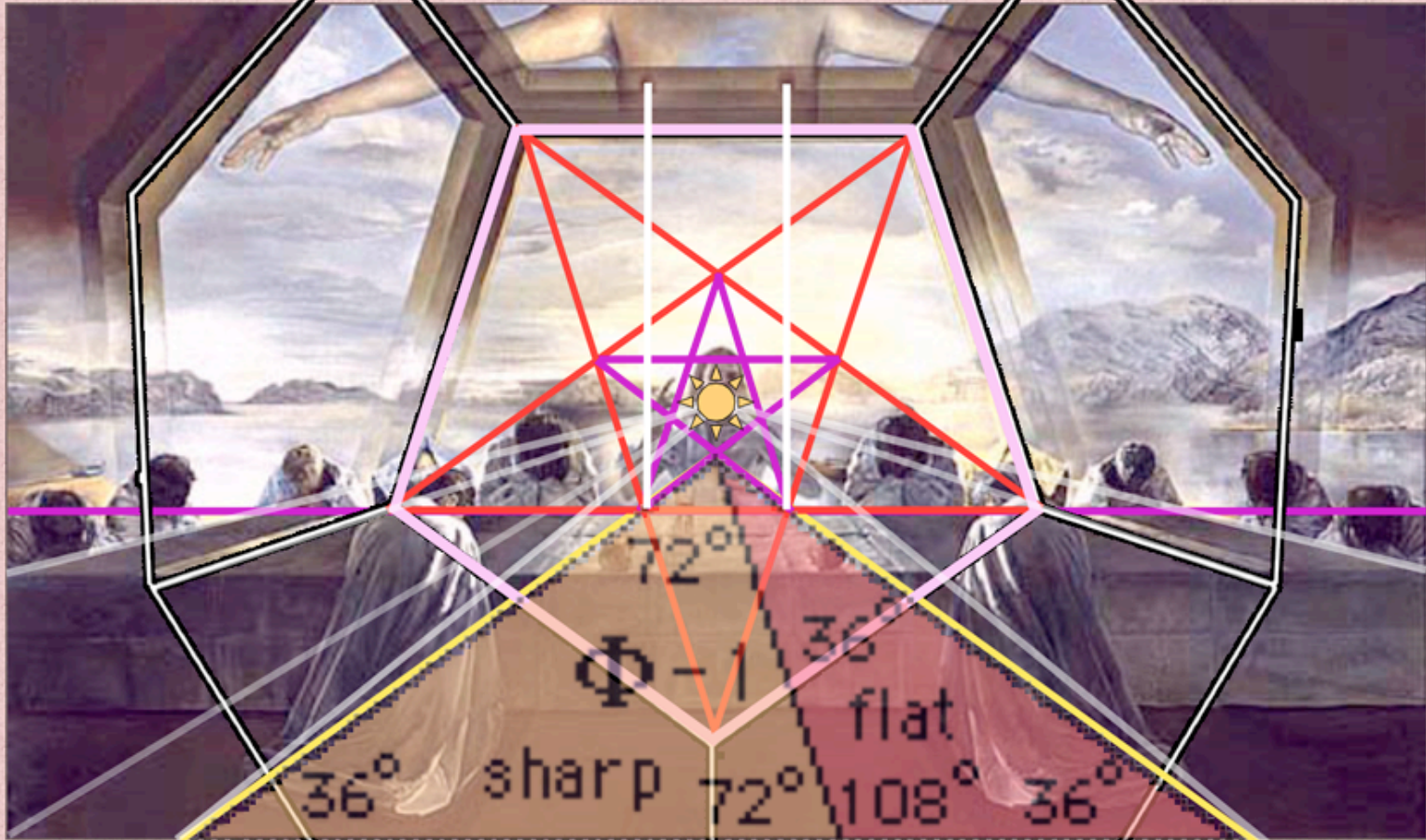
© Brian Curtis - 2004





"The Sacrament of the Last Supper" by Salvatore Dali - 1955





"The Sacrament of the Last Supper" by Salvatore Dali - 1955

© Brian Curtis - 2004





**"The Sacrament of the Last Supper" by Salvatore Dali - 1955**

© Brian Curtis - 2004





*Disney Animated Film - 1959  
"Donald Duck in Mathmagic Land"*



**Fibonacci Sequence 1-55**  
by Mario Mertz - 1994  
Turku Power Station, Finland





© Brian Curtis - 2004





© Brian Curtis - 2004





Can an Italian mathematician's 13th century discovery really **make you money**? Bear with me, because I'm about to reveal how an amazing...

**"500 Year-Old Formula Is Able to Identify Key Market Turns And How You Can Use it to Seek Profits In The Stocks, Futures or Commodities Markets With A Mind-Blowing Never-Before-Revealed, High-Octane Trading Method!"**

**"But You Don't Need to Be a Math Whiz, a Diehard Day Trader or Even a Computer Genius to Learn How! My New Video Tutorials Show You, Step by Step!"**

### Introducing... **FibonacciSecrets™**

This is truly a one-of-kind, packed-to-the-rim course.

It comes complete with videos, tutorials, camshots and even handy software to help you along. Here's just a brief sampling of what you'll discover...

- ✓ Possibly **identify** and trade the high probability market reversals...
- ✓ **Calculate** possible key turning points for tops and bottoms...
- ✓ **Position** yourself to potentially anticipate market corrections!

... And way lots more!

FibonacciSecrets™ offers you a detailed yet **explosive revelation** on how you can possibly apply Fibonacci levels to your trading.

It's like learning how to turn your newfound **Fibonacci skills** into a "craft" that could possibly give you what you need to succeed!

- **Whether** you trade stocks or futures...
- **Whether** you're into intraday trading, swing trading or even position trading...
- **Whether** you're a brand-new beginner or a seasoned expert trader...



**Get your copy** of my Home Study Course and Video Tutorial today!

## Elliot Wave Theory

# CHAOS THEORY

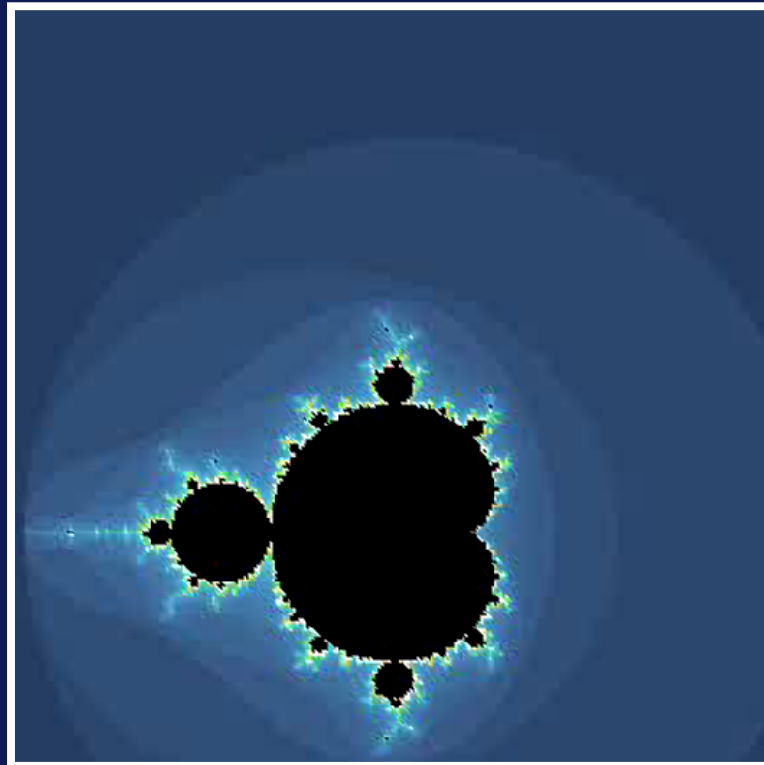
Benoit Mandelbrot

A *fractal* is any visual pattern that reveals infinitely greater complexity as it is enlarged. Thus, fractals graphically portray the notion of "worlds within worlds" which has obsessed Western culture from its beginnings. With fractals the closer you come, the more detail you see. Infinity is explicit and graphically manifest in fractals.

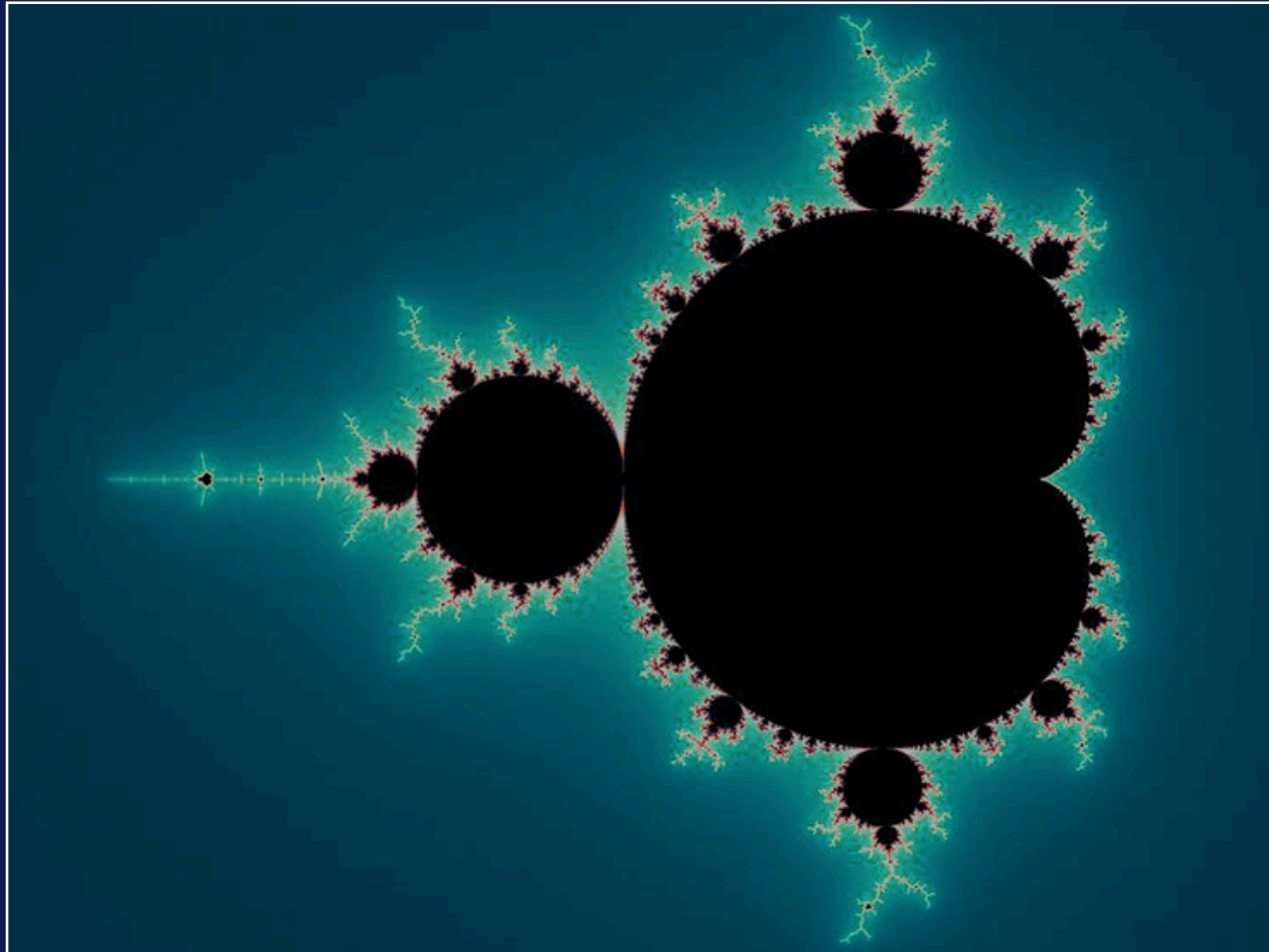
Whether generated by computers or natural processes, all fractals are spun from what scientists call a "positive feedback loop." Something--data or matter--goes in one "end," undergoes a given, often very slight, modification and comes out the other. Fractals are produced when the output is fed back into the system as input again and again.



## Zooming in on the Mandelbrot Set

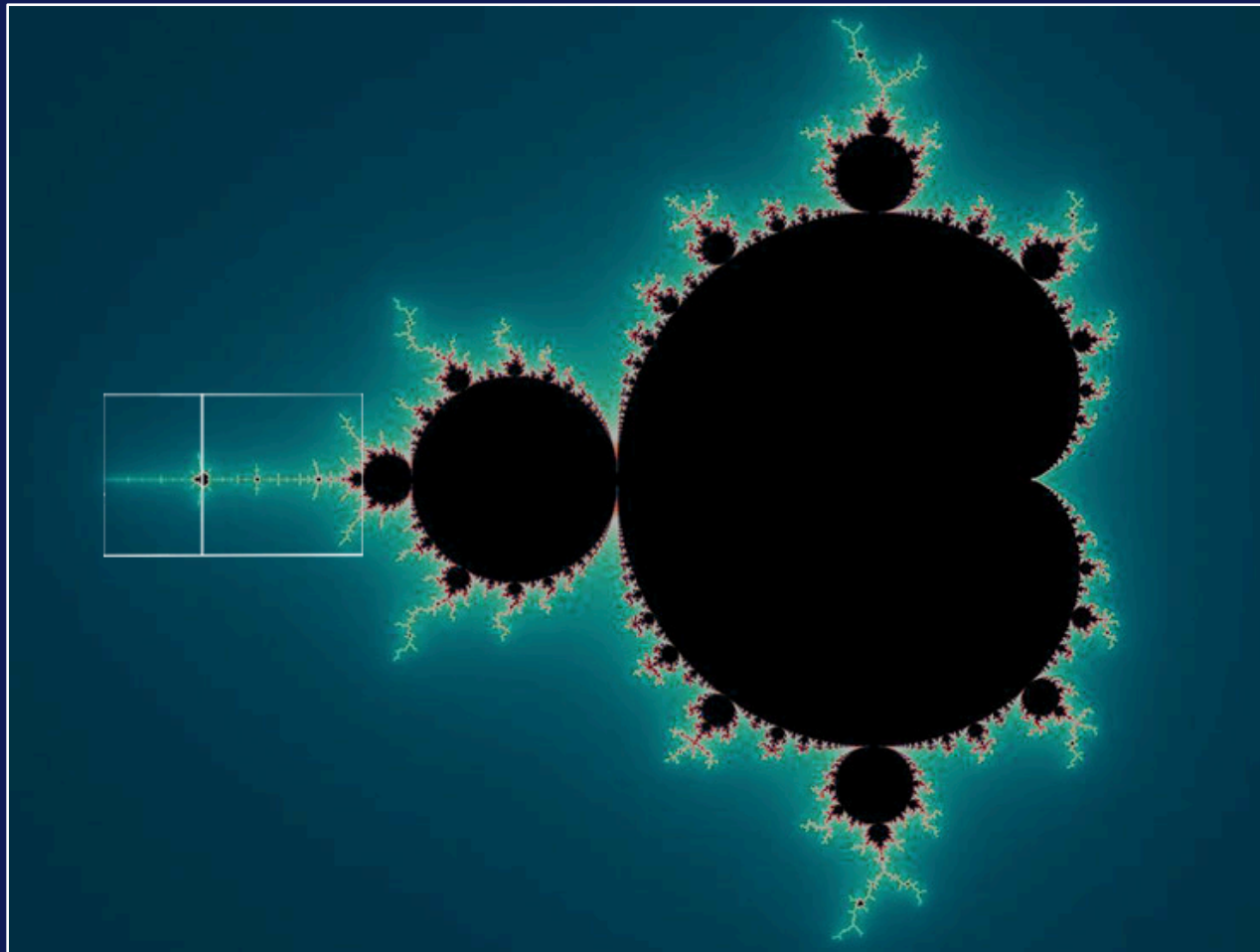


# The Mandelbrot Set and the Golden Mean

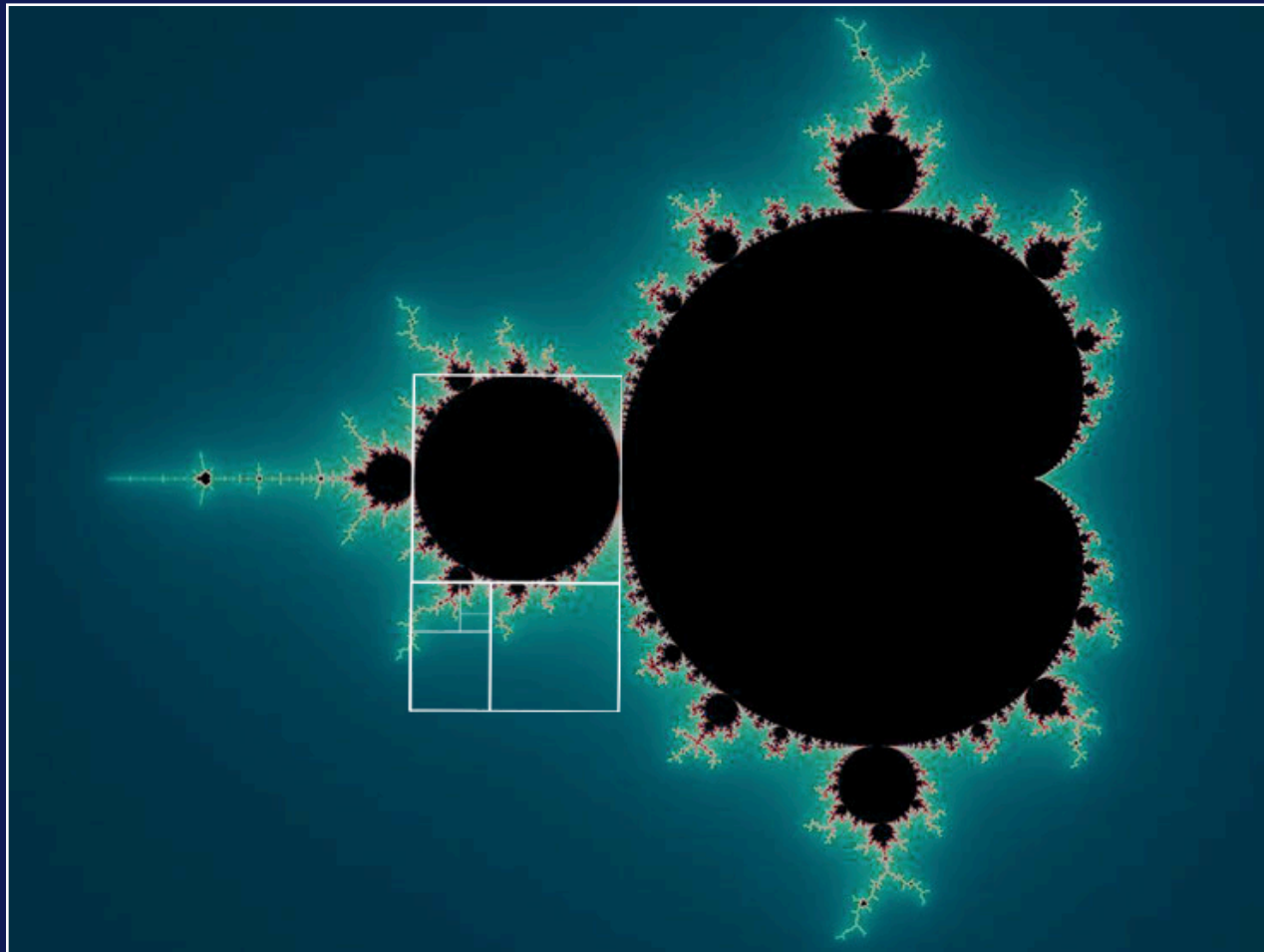




# The Mandelbrot Set and the Golden Mean

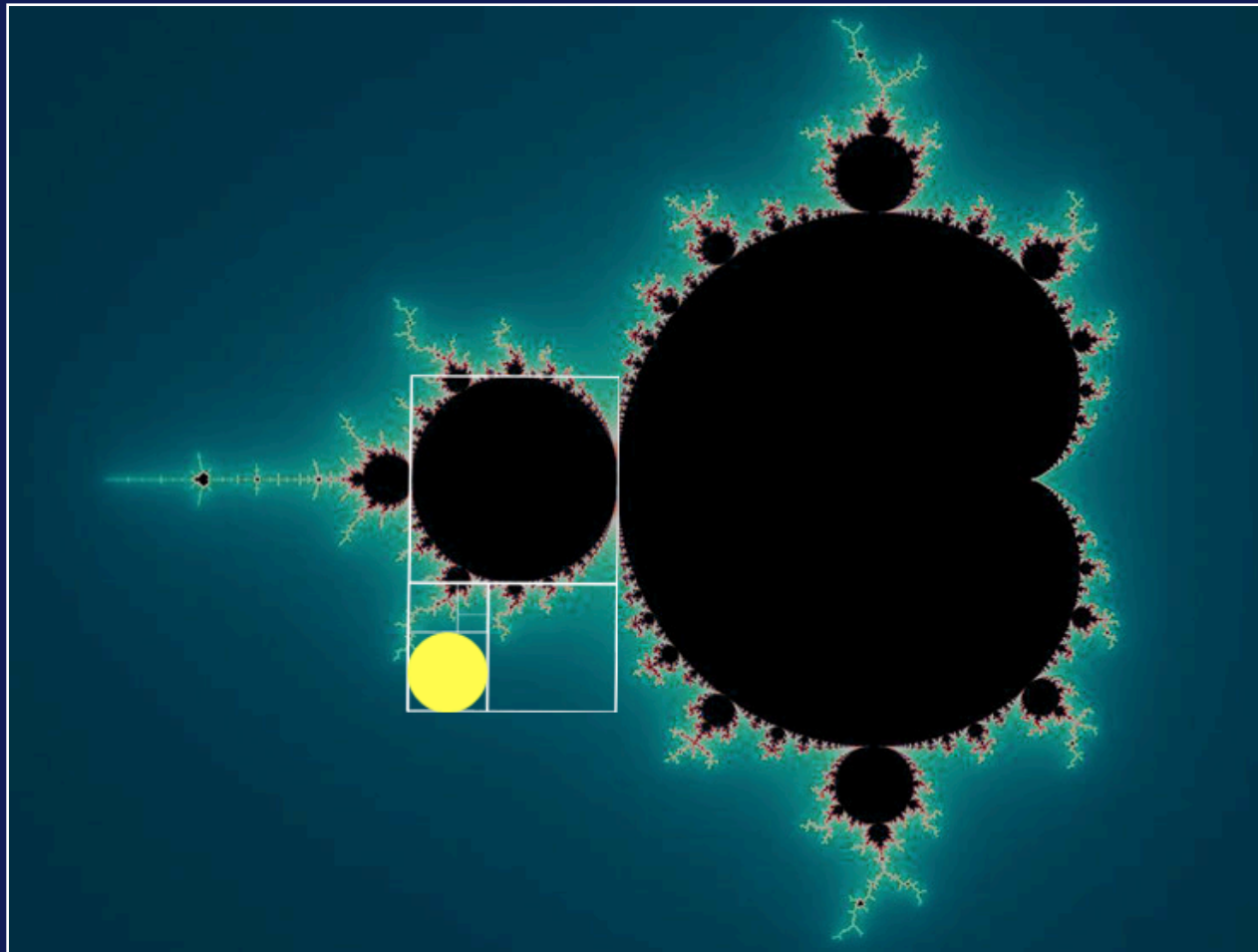


# The Mandelbrot Set and the Golden Mean

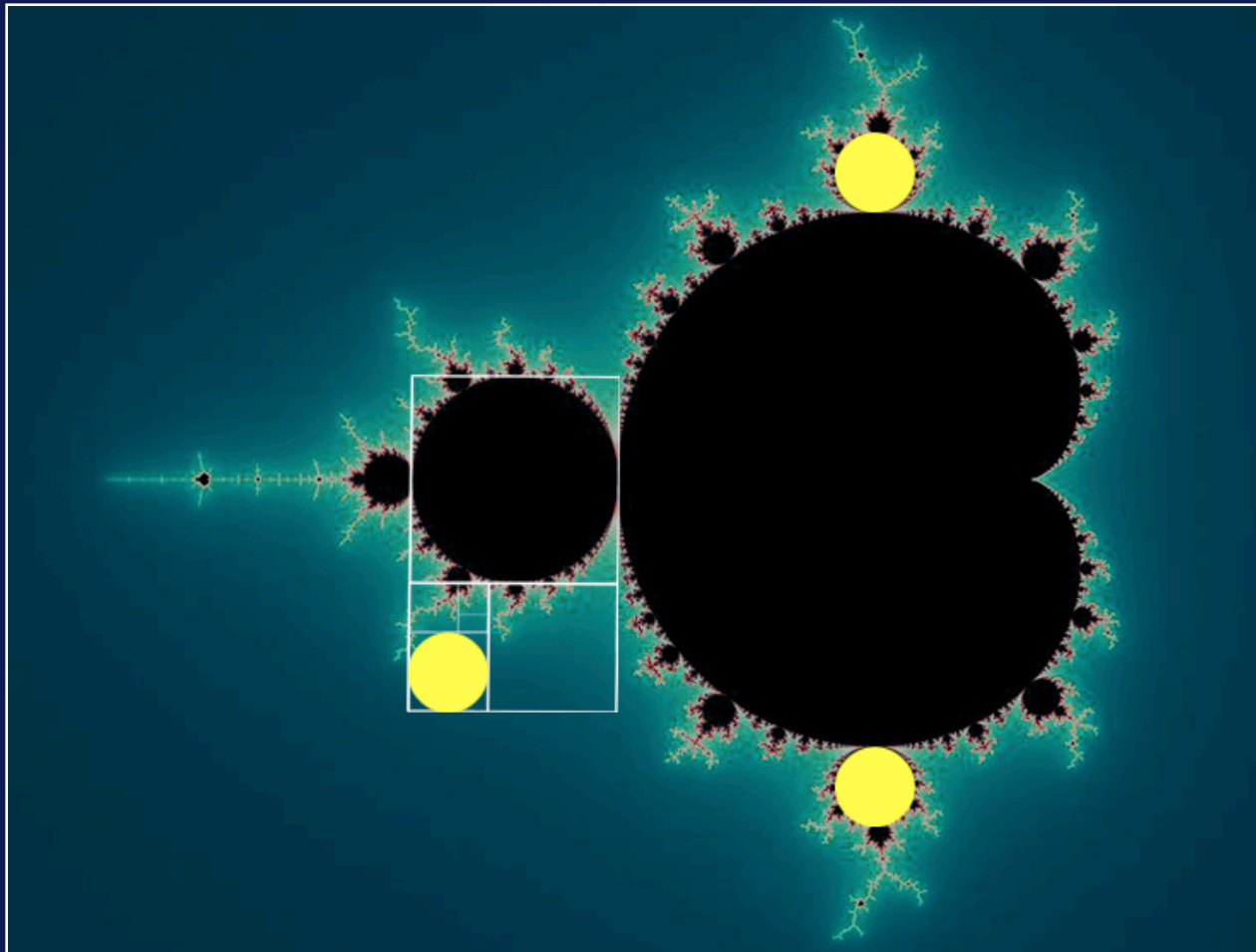




# The Mandelbrot Set and the Golden Mean

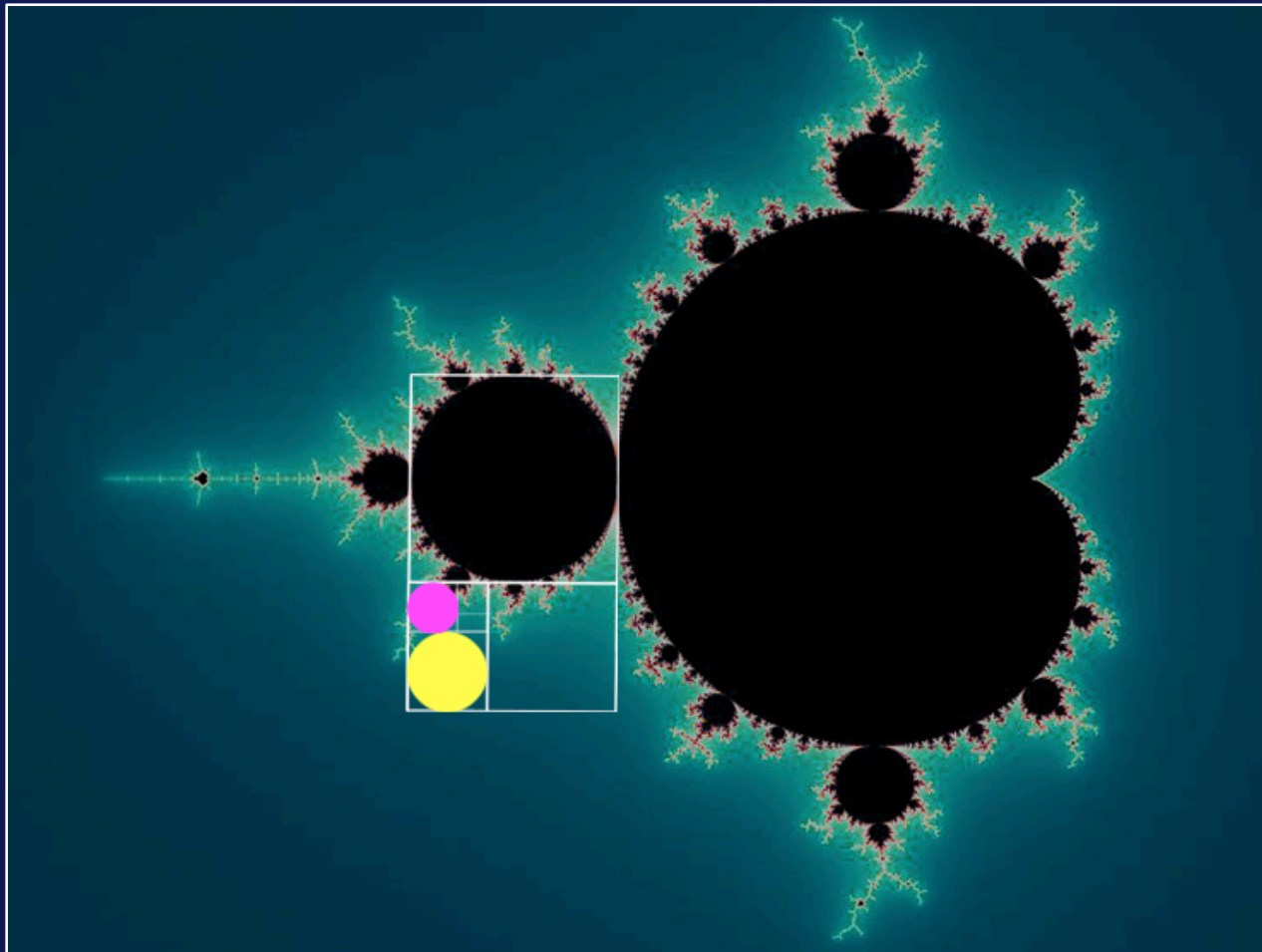


# The Mandelbrot Set and the Golden Mean

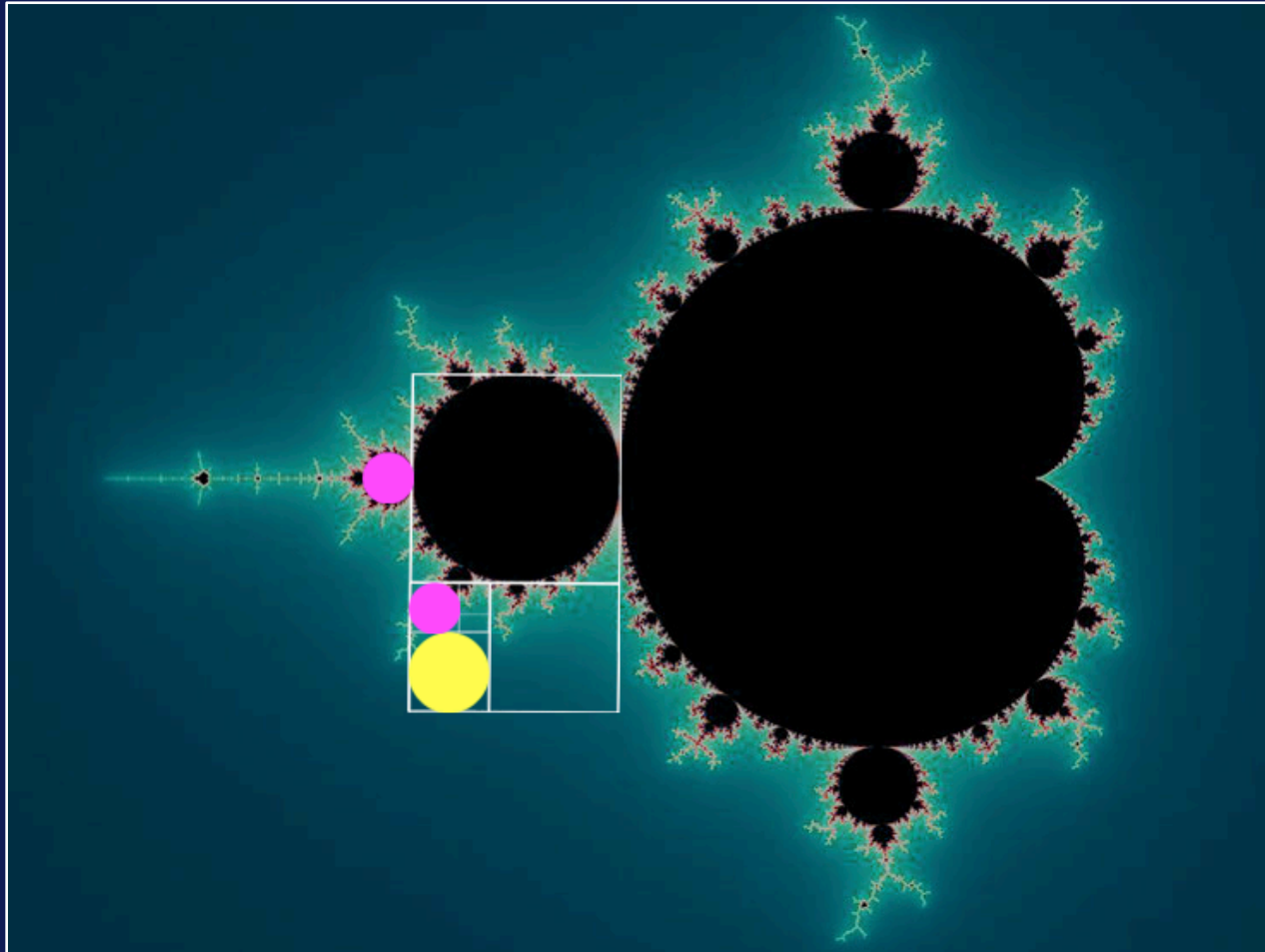




# The Mandelbrot Set and the Golden Mean

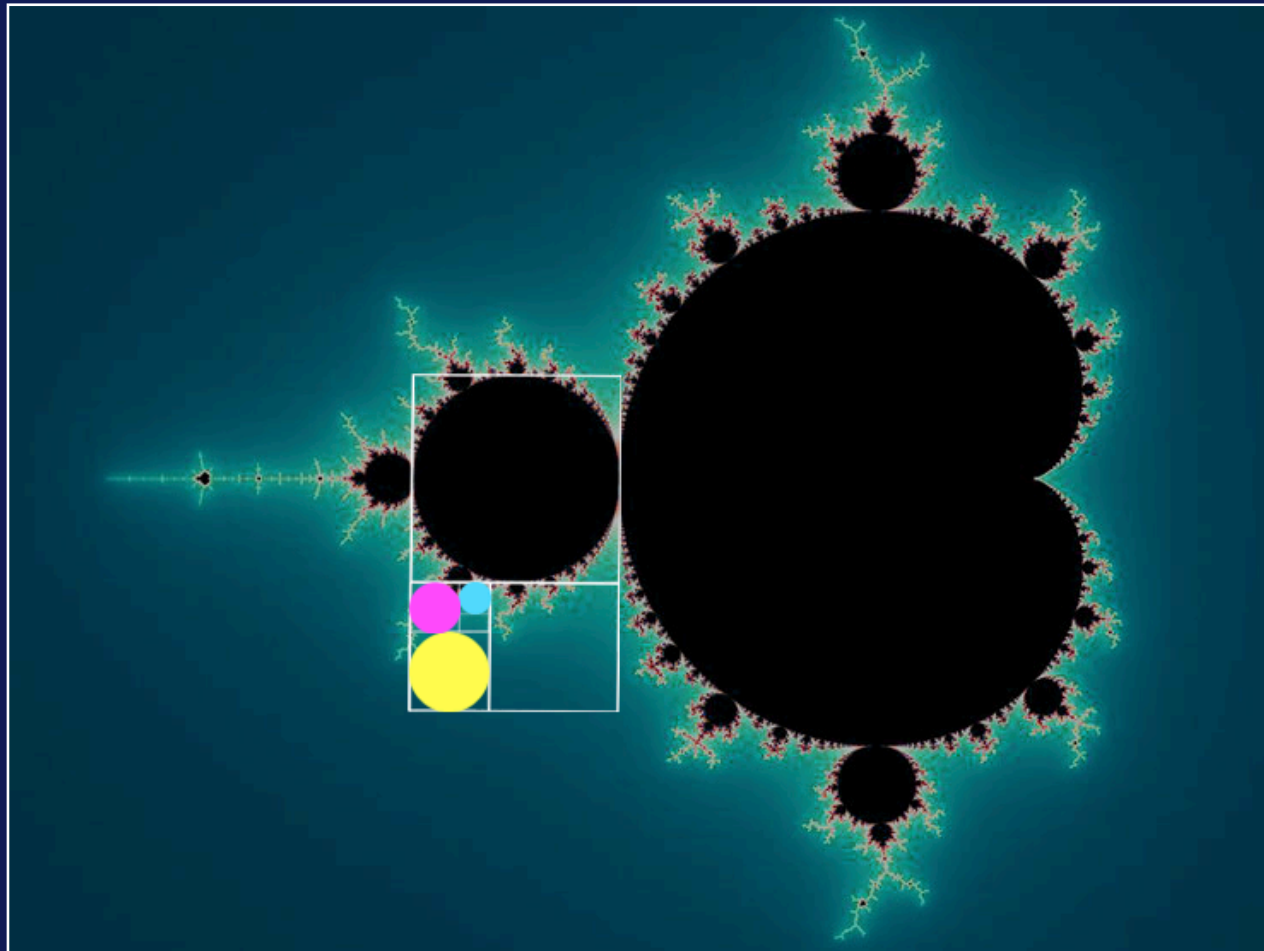


# The Mandelbrot Set and the Golden Mean

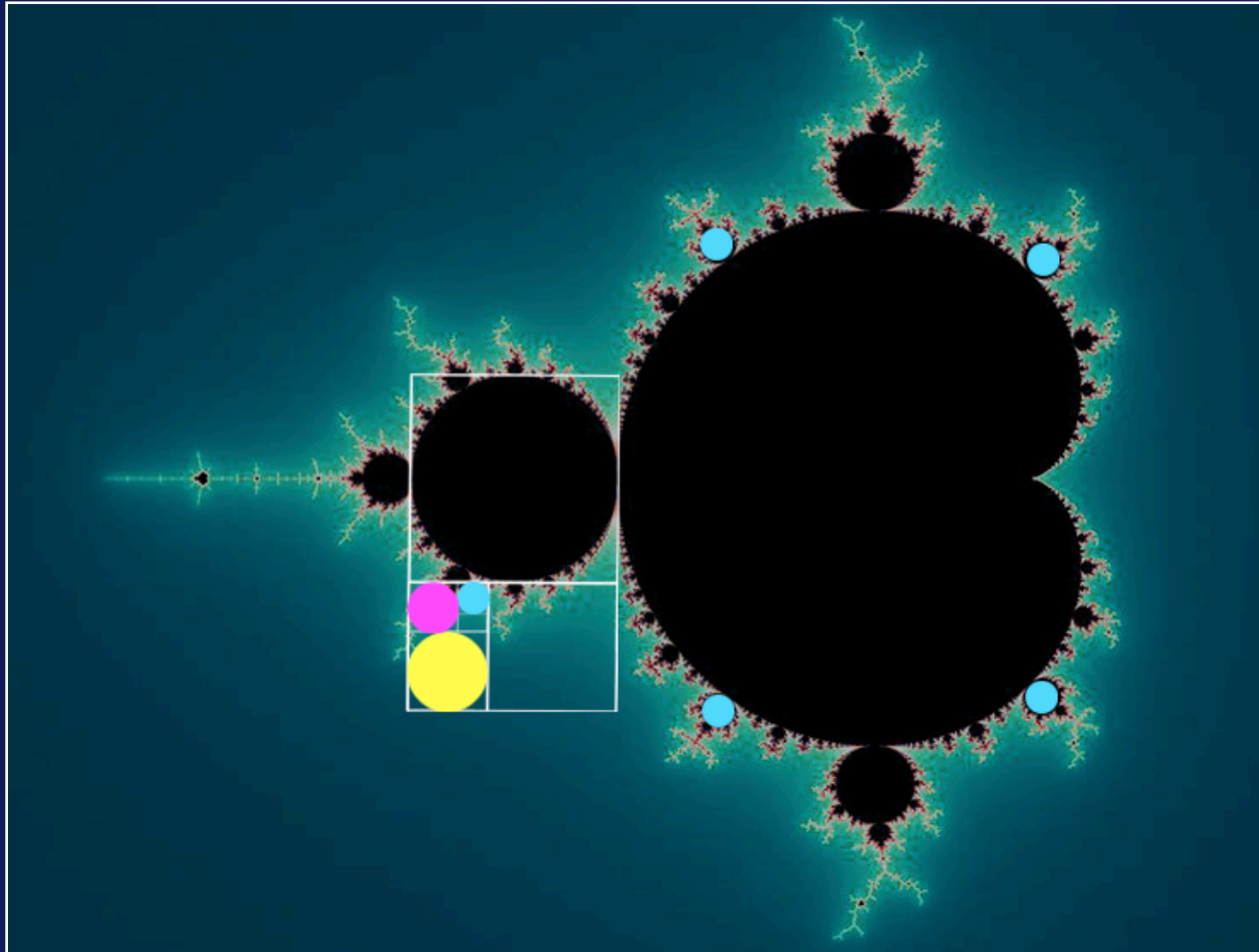




# The Mandelbrot Set and the Golden Mean

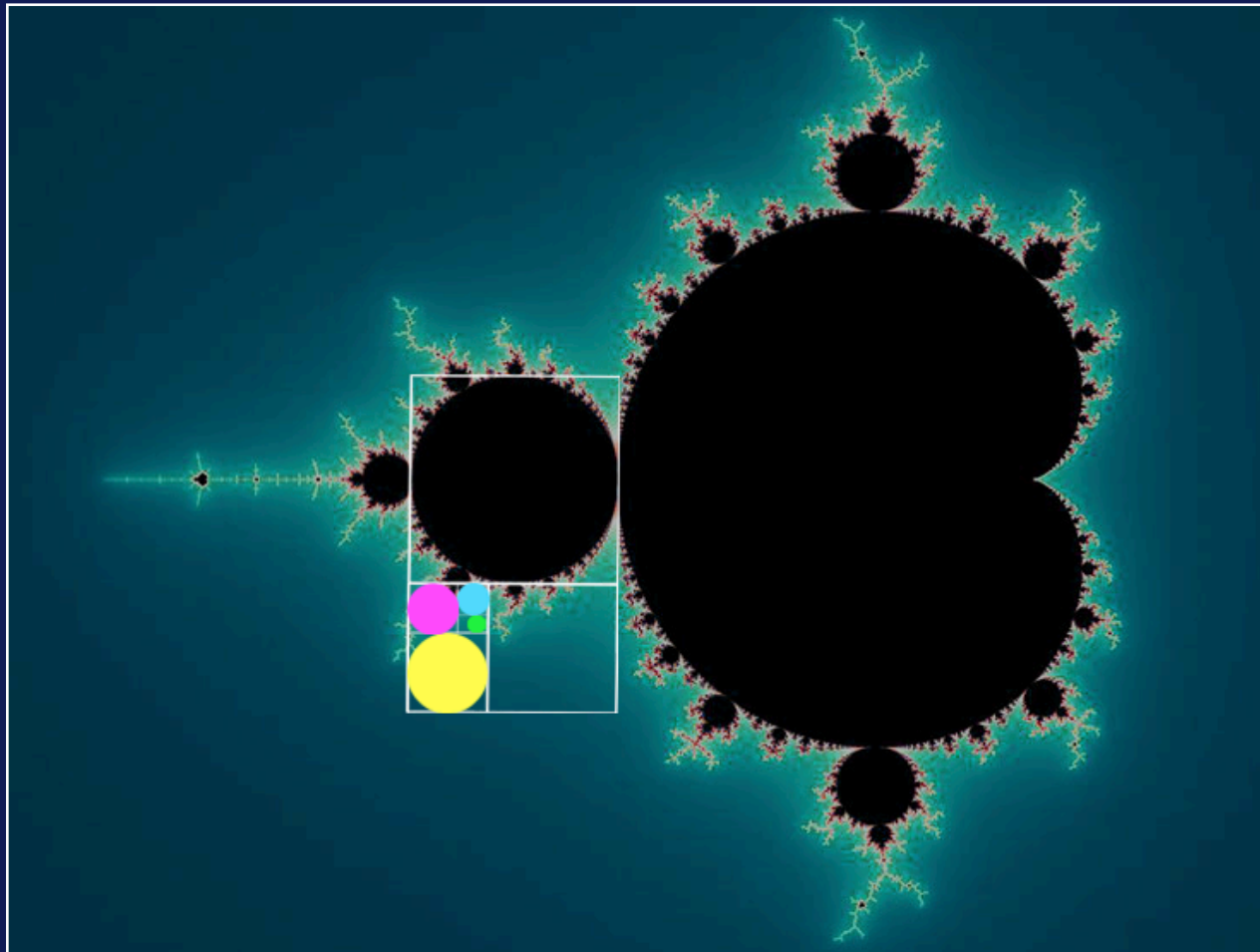


# The Mandelbrot Set and the Golden Mean

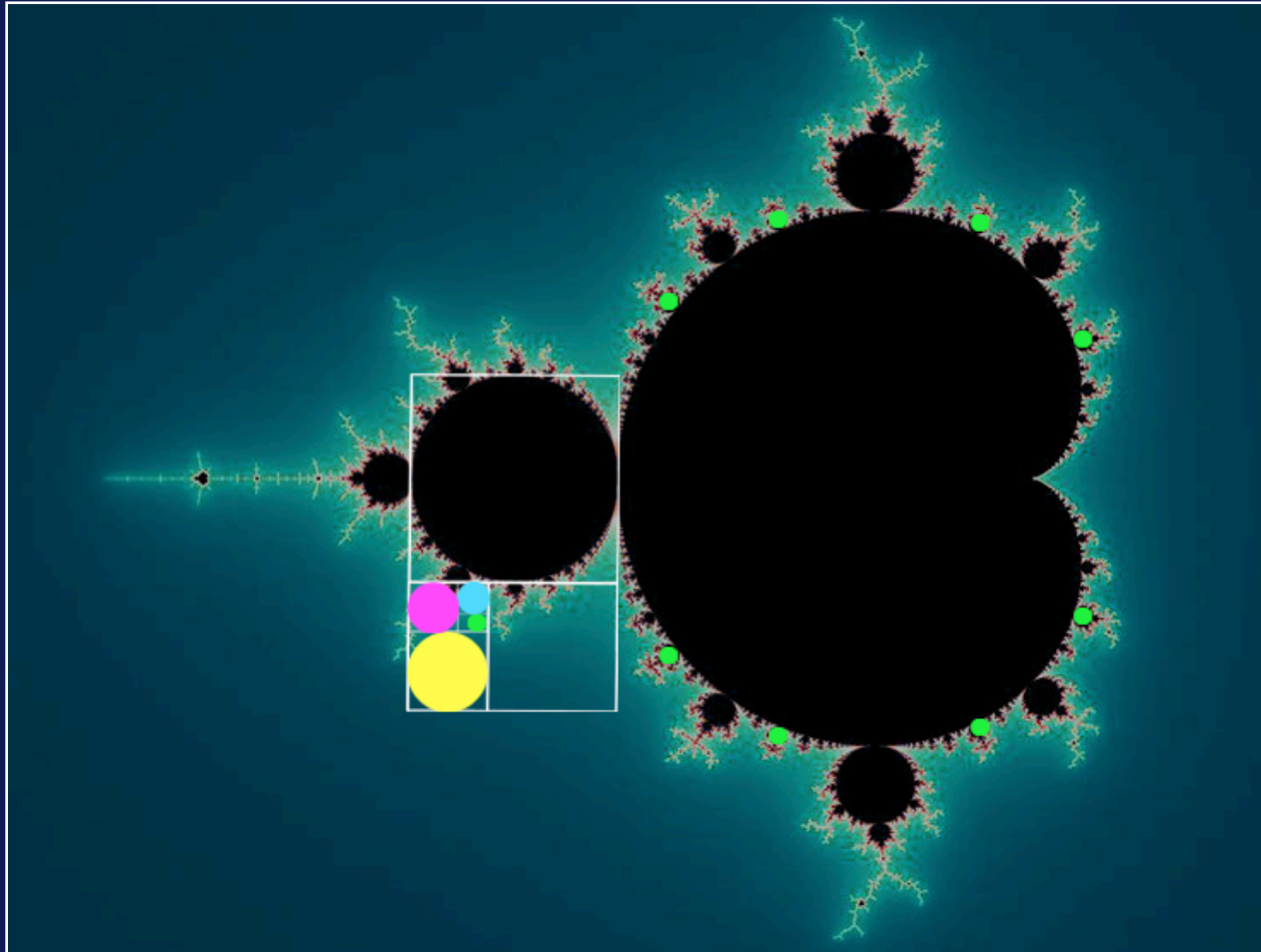




# The Mandelbrot Set and the Golden Mean

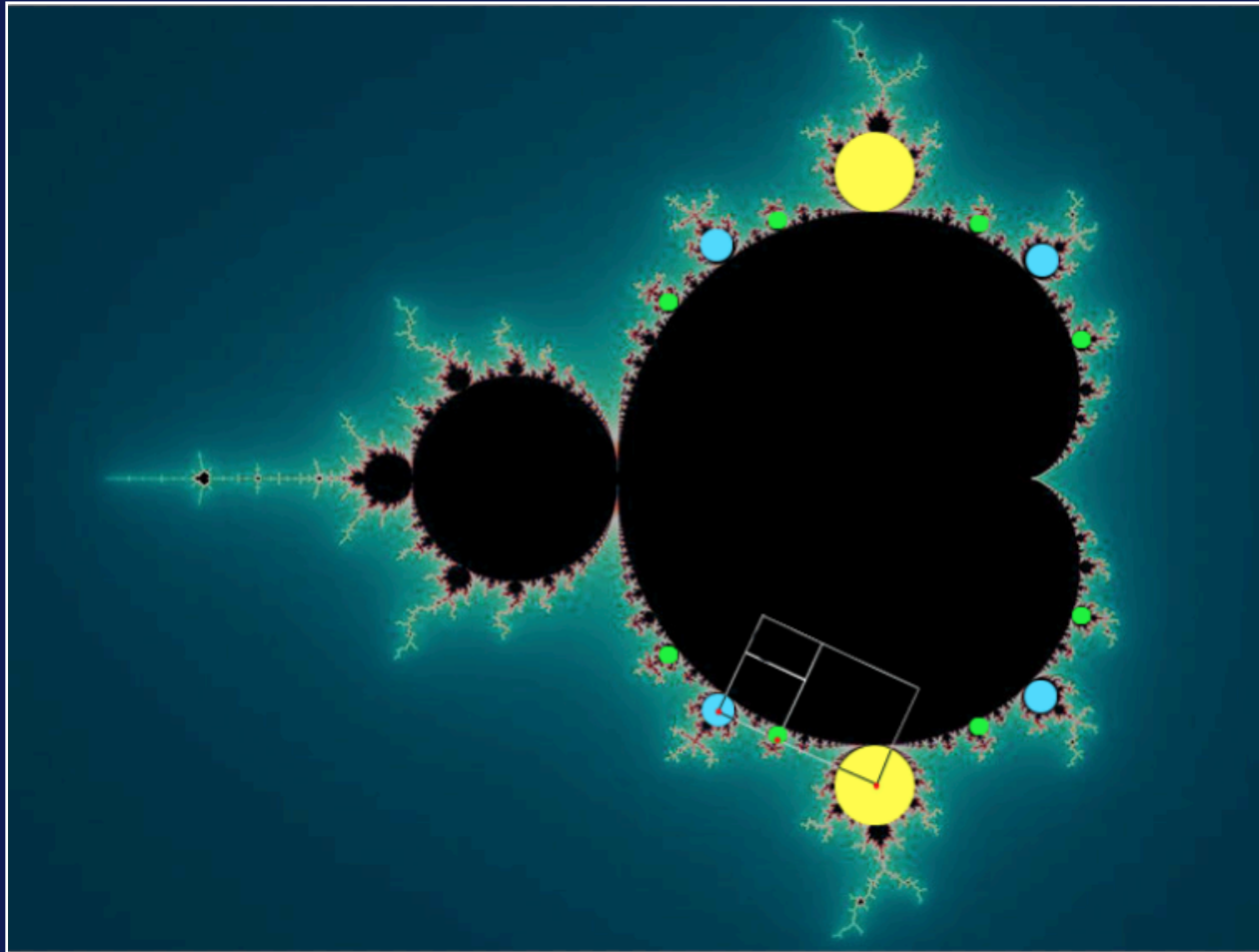


# The Mandelbrot Set and the Golden Mean

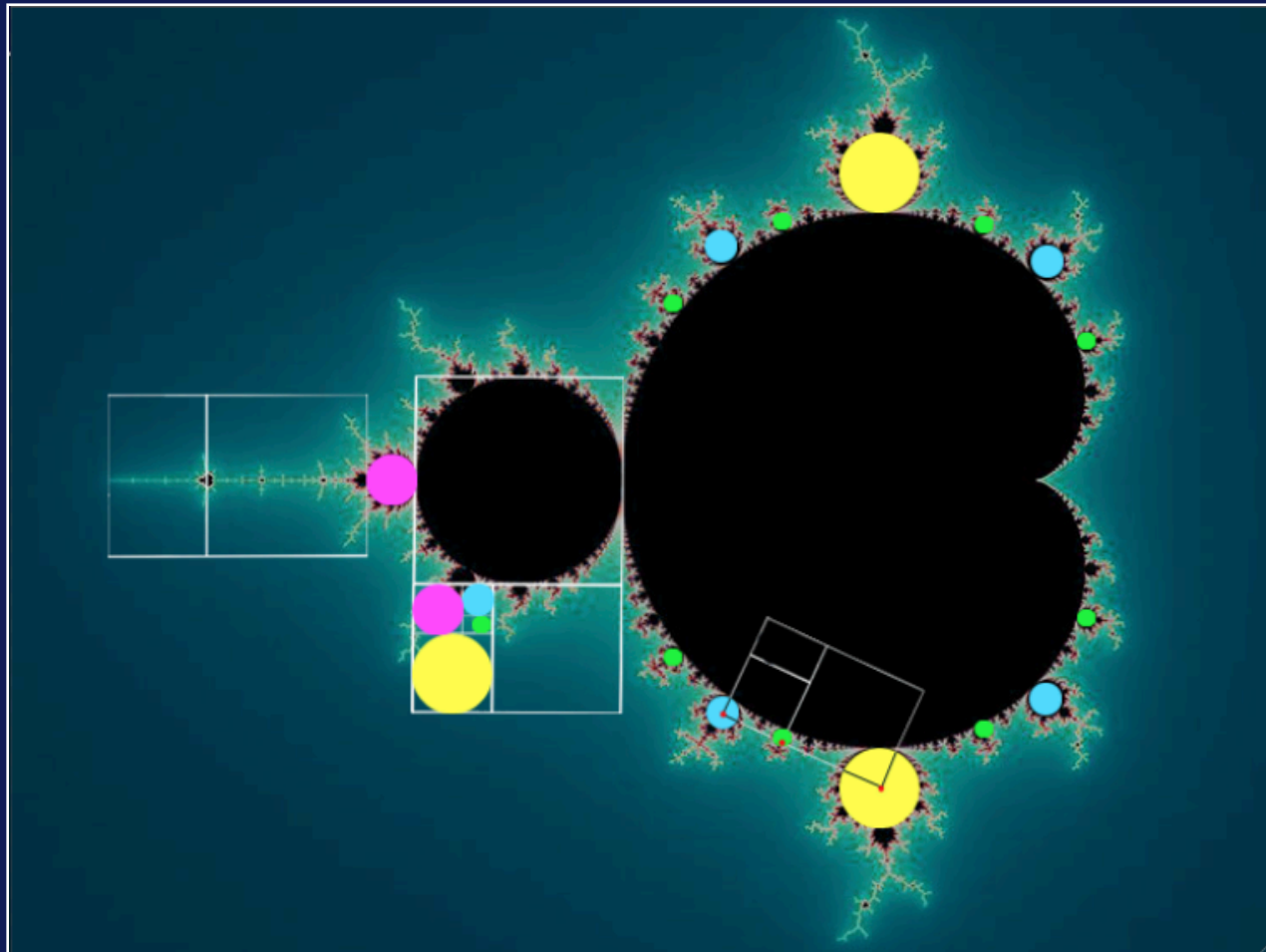




# The Mandelbrot Set and the Golden Mean

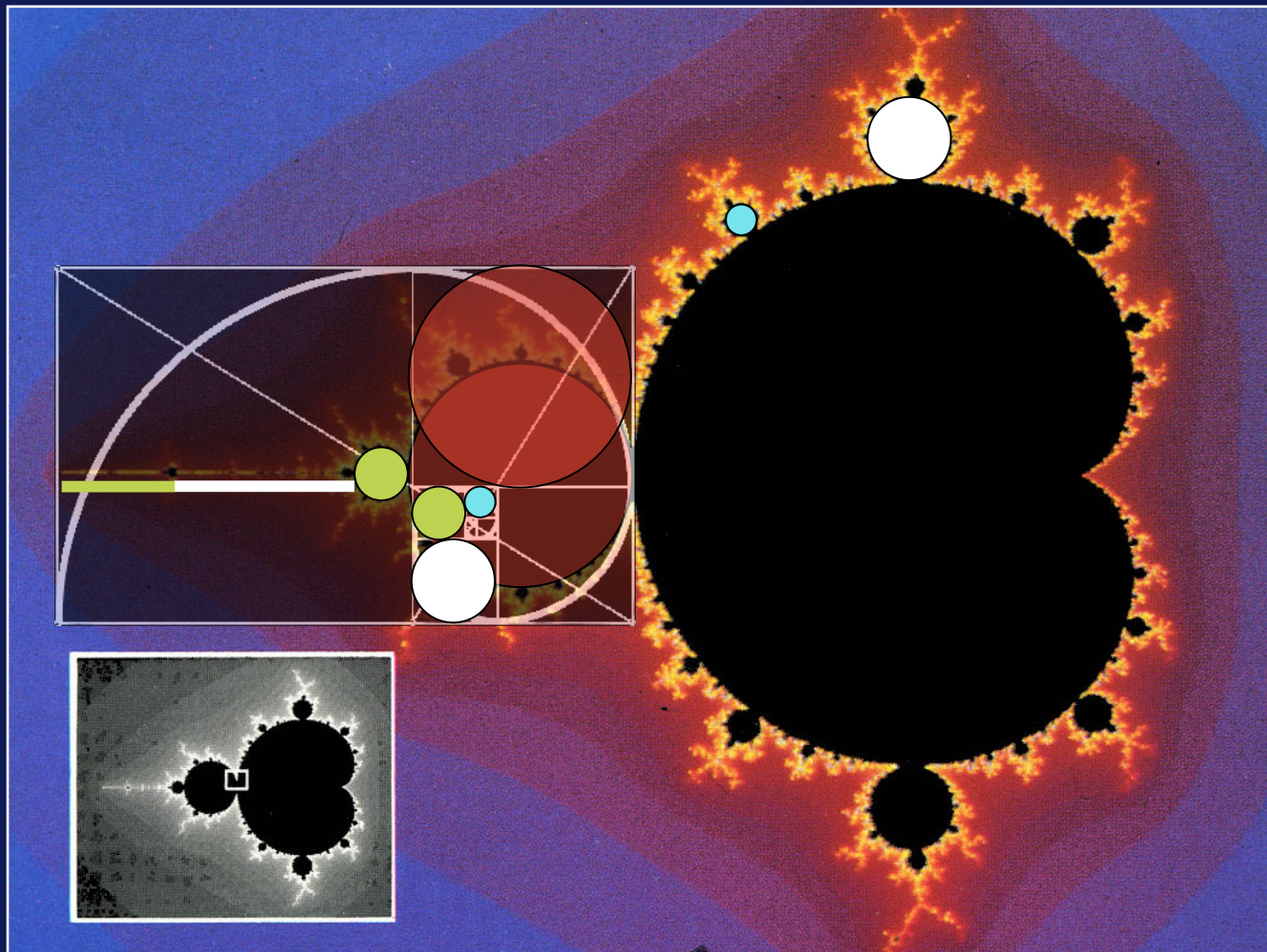


# The Mandelbrot Set and the Golden Mean





# Mandelbrot Set





© Brian Curtis - 2011

**Hurricane Andrew** - August 1992





© Brian Curtis - 2011

**Hurricane Andrew** - August 1992

# Neighboring Spiral Galaxy



Gemini Observatory – GMOS Team



*A dwelling place for the Infinite in the realm of space and time*



Gemini Observatory - GMOS Team

© Brian Curtis - 2011

# *Tracing a Mystical Path*

*The aim of all initiatory spiritual traditions is to find a way back through the bewildering multiplicity of the world to the **Unity** of the source.*



*"Man is made in the image and likeness of God."*

***Baltimore catechism, 1884***

*"E Pluribus Unum"*

***Great Seal of the United States of America***

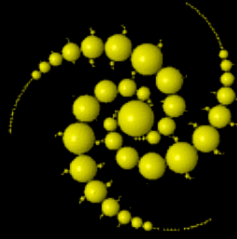
*“The human body is beautiful because it is the expression of the order found in the universe.”*

***Vitruvius***

*“If the doors of perception were cleansed, man would see everything as it is; Infinite.”*

***William Blake***





## *The Tradition of Sacred Geometry*

*We have now come to the end of our investigation of this simple yet profound mathematical mystery. Hopefully the evidence put before you has satisfactorily, as promised, verified, quantified, and substantiated the wonderfully joyous news that we are, indeed,*

*"one with all things of heaven and the earth"*

*and that*

*"everything that lives, lives not alone nor for itself."*