

## Images from Lecture One on Geometry and Proportion in Art

Math in Art, Summer 2015

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Max Mill *Variation 12*, 1938, Farblithographie

Alvin Loving, *Untitled (Hexagonal Composition)*, 1967-69, Acrylic on Canvas.

Xenobia Bailey, *Trilogy*, 2000, Cotton and Acrylic Yarn Crochet.

Sarah Gee, *Cephalopod*, 2011

<https://vimeo.com/47902662>

Jen Stark, 2007, *Square 1 and Square 2*

Sol LeWitt, Detail from *All Combinations of Arcs from Four Corners, Arcs from Four Sides, Straight Lines, Not Straight Lines and Broken Lines*, 1967

Theo van Doesburg (Dutch, 1883-1931), *Arithmetic Composition*, c. 1929-1930, Oil on canvas

Hans Richter, *Rhythm 21*, Silent Film 1921.

<http://vimeo.com/42339457>

Moholy Nagy, *Light Space Modulator*, 1930

Mies van der Rohe, *Barcelona Chair*, 1929

Aldo Rossi, *Teapot for Alessi*, 1983.

### Golden Ratio

*Phidias Showing the Frieze of the Parthenon to his Friends*, 1868, Sir Lawrence Alma-Tadema

*Greek Parthenon*, c. 500 BC

*Pyramids of Giza*, c. 2500 BC

### Golden Rectangle

*Fechner's Graph of Rectangle Preference* 1876

Piet Mondrian, *Composition with Yellow, Blue and Red* (1937-42)

Agnes Martin, *On a Clear Day*, 1973, Silkscreen

Mies van der Rohe, *Illinois Institute of Technology*, 1949-1952

### Golden Triangle

Carl Kleiner, *The Golden Ratio and Friends*, 2011

### Golden Spiral

Robert Smithon, *Spiral Jetty*, Earthwork Sculpture, Salt Lake, Utah, 1970

Wim Delvoye, *Nautilus*, 2012

### Fibonacci

Agnes Denes, *Tree Mountain*, 1996

### Proportion

A 1684 Depiction of Vitruvius (right) presenting *De Architectura* to Augustus

*De Architectura*, c. 15 BC (Illustrated in 1521)

Polyclitus Statue c. 450-440 B.C.

Portrait of Luca Pacioli, traditionally attributed to Jacopo de' Barbari, 1495

*De Divina Proportione*, c. 1497

Leonardo da Vinci, *Self-portrait in red chalk*, c. 1512

Leonardo da Vinci, *Vitruvian Man*, 1487

Albrecht Durer, *Self-portrait*, 1500

Albrecht Durer, *Nude Woman 1 Profile*, 1509

Photo of Le Corbusier, 1933

*The Modulor*, 1948

Le Corbusier, *The Modulor, Unité d'Habitation*, 1952

### Disproportion

Richard Roth, *Untitled*, 1983, Installation, 11' diameter sphere with red stool

Rene Magritte, *Personal Values* (Les Valeurs Personnelles), 1952, Oil on Canvas

### Dividing the Canvas

Edvard Munch, 1896, *The Sick Child*

Andy Warhol, *Marilyn Diptych*, 1962

Robert Rauschenberg, *Centennial Certificate*, 1969, Color Lithograph.

Francisco Goya, *Taromaquia 20*, Etching, 1815-16

H. Eric Bergman, *Beethoven's Ninth Symphony*, 1936

Thomas Eakins, *The Agnew Clinic*, 1889, Oil on Canvas.

Georges Pierre Seurat, *Bathers at Asnières*, Oil on Canvas, 1884

Monet, *Poppies at Argenteuil*, 1873

Gustave Caillebotte, *Boater Pulling on his Pérrisoire*, 1878

Scott Siedman, *Sanctuary*, 1985, Acrylic on Canvas

Georges Pierre Seurat, *Invitation to the Side Show (La Parade)*, Oil on Canvas, 1871-8

Susan Jane Walp, *Grapefruit with Black Ribbons*, 2000, Oil on Linen

Jeff Wall, *The Pine on the Corner*, 1990

James Ensor, *Self-Portrait Surrounded by Masks*, 1899, Oil

Additional Reading on Design, Proportion and the Golden Ratio:

*Ten Books of Architecture* by Vitruvius

*On Divine Proportion* by Luca Pacioli

*Four Books on Human Proportion* by Albrecht Dürer

*The Modulor* by Le Corbusier

*The Painter's Secret Geometry* by Charles Bouleau

*Design Basics* by David A. Lauer & Stephen Pentak

*The Golden Ratio* by Mario Livio

*Geometry of Design* by Kimberly Elam