

Images from Lecture Two on Symmetry

Math in Art, Summer 2015

Detail of Pectoral (Brooch), Middle Kingdom

Celtic Knot

Christian Cross

Buddhist Mandala

Medicine Wheel

Star of David

Le Bateau by Henri Matisse

Translational Symmetry

Pont Du Gard (ancient Roman aqueduct bridge)

Bernd and Hilla Becher, *Industrial Facades*, 1970-92, fifteen black-and-white photographs

Katharina Fritsch, *Tischgesellschaft (Company at Table)* 1988

René Magritte, *Portrait of Mr. Edward James from the back*, 1937

Rotational Symmetry

Chartres Cathedral Rose Window c. 1150-70

Roman Pantheon

Andrea Palladio, *Villa Rotonda*, completed 1592

Annette Schroter, *Kleiner Rundschnitt 5/07*, 2007, Paper cut cardboard lacquer

Reuben Patterson, *Crucifixion*, 2013, glitter and synthetic polymer paint on canvas

Rachel Garrard, *Mapping the Cosmos Gold*, watercolour on cotton rag, 2012

Reflective Symmetry

The ancient city of Ur, c. 3500-2030 B.C.

East torana of the Great Stupa at Sanchi, stone, mid-1st Century BC

Arch of Constantine, 312-15 CE, Rome

Angkor Wat, Cambodia, 12th Century

Cathedral of Notre-Dame, France, begun in 1211

Hieronymus Bosch, *Garden of Earthly Delights*, 1490-1510, Oil on Wood Panels

Taj Mahal, Agra, India, 1632-1653

Robin Rorick, *Sacred Four*

Paul Robles, *White Banded Carpet Moth (White Nails)*

Igor Chak, *Space Invader Couch*, 2010

Annette Schroter, *Vor der Stadt (Before the City)*, 2009, cut paper silhouette

Tony Orico, *Penwald 4: Unison Symmetry Standing*
<https://www.youtube.com/watch?v=3BG9ILVQBkQ>

Ed Ruscha, *Step on No Pets*, 2002

Ambigrams

Princess Bridge 20th Century Collector's Edition Cover

Godel, Escher, Bach Cover

Salvador Dali Sculpture for Indian Airlines

Palindromes: A man, a plan, a canal – Panama!

Longest Palindrome: <http://www.palindromelist.net/longest/>

1961 Cover of Mad Magazine

Frieze Patterns

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

Klein Dytham Architecture, *Heidi House*, Tokyo, 2005, Glass and Plywood

Wallpaper Patterns

William Morris, *Brer Rabbit*, block printed furnishing cotton, manufactured by Morris & Co., 1882

Josef Hoffman, *Elis Z72*, 1925-30, Fabric Design, Pencil and black ink on board

Josef Hoffman, *Elis Z73*, 1925-30, Fabric Design, Pencil and black ink on board

Andy Warhol, *Green Coca-Cola Bottles*, 1962

Tord Boontje, *Little Flowers Falling*, Laser Cut Microfibre 2005, Curtain or Screen

Tord Boontje, *Until Dawn*, Die-cut tyvek curtain, 2004

Annette Schroter, *Blick ins Land 2*, 2003, cut paper

Annette Schroter, *Frau in Waffen I*, 2003, cut paper

Asymmetry

Nissan Cube Advertisement "Symmetry Sucks"

Leaning Tower of Pisa, Italy, 1173

Sun Young Byun, *The House in the painting the painting in the house*, 2007, Acrylic on canvas

Auditorio Tenerife, Canary Islands, completed 2003

Christopher Pearson, *Willow Boughs*, 2006, Animated Wallpaper, Design by William Morris

http://www.youtube.com/watch?v=pbHAZclTq_Y&feature=c4-overview&playnext=1&list=TLFZTrdrUYAgI

Christopher Pearson, *Bullet*, Animated Wallpaper, 2006, Design by Timorous Beasties

Fractals

Jon Sims, *Tree Fractal*

B.B. Mandelbrot, *Untitled*, Computer Graphic, 1989

Mandelbrot Set

Julia Set

Sierpinsky Triangle

Koch Snowflake

Helaman Ferguson, *Mathematics in Bronze*

Sierpinsky Carpet

Menger Sponge

Tim Harkman, *Untitled*, 2003, Photo on Foamcore on Panel

Simon Beck, *Snow Circles*

<http://www.dailymail.co.uk/news/article-2198730/Simon-Beck-Artist-creates-giant-crop-circles-snow-painstakingly-walking-10-hours-time.html>

Larry Carlson, Digitally Manipulated Photography

Marco Ugolini, *A Poster*

Takashi Ito, *Spacy*

<http://vimeo.com/11982021>