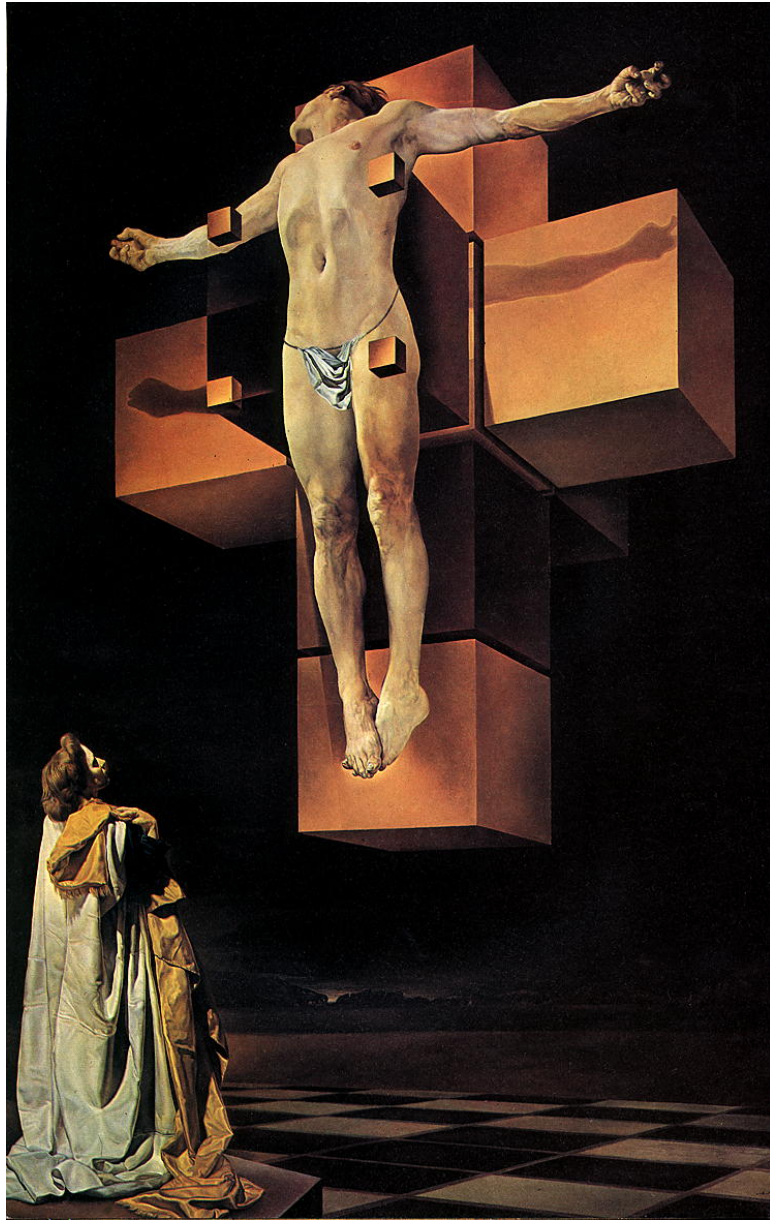


Salvador Dali



Corpus Hypercubus, 1955

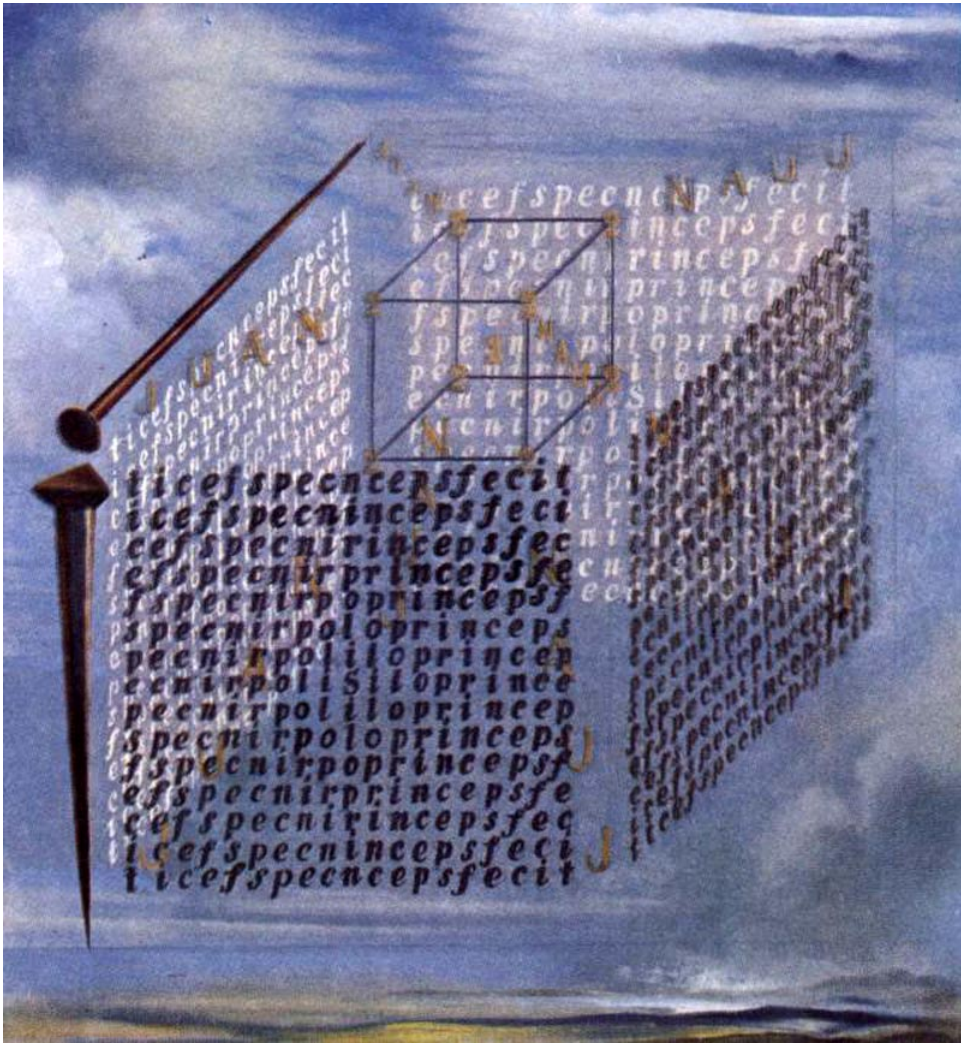


The Last Supper, 1955

Christ and his disciples are pictured inside a giant dodecahedron.



The Skull of Zurbarán, 1956



A Propos of the "Treatise on Cubic Form" by Juan de Herrera, 1960

M. C. Escher (Dutch, 1898-1972)



Contrast (Order and Chaos), 1950

Gift of Dr. and Mrs. Julius S. Piver

All M.C. Escher works Cordon Art-Baarn-the Netherlands. Used by permission.



Circle Limit III, 1959

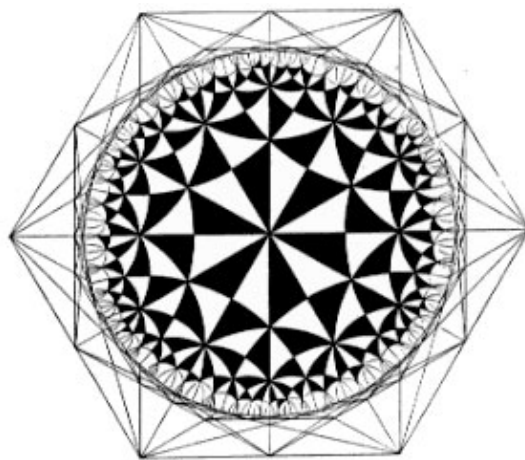


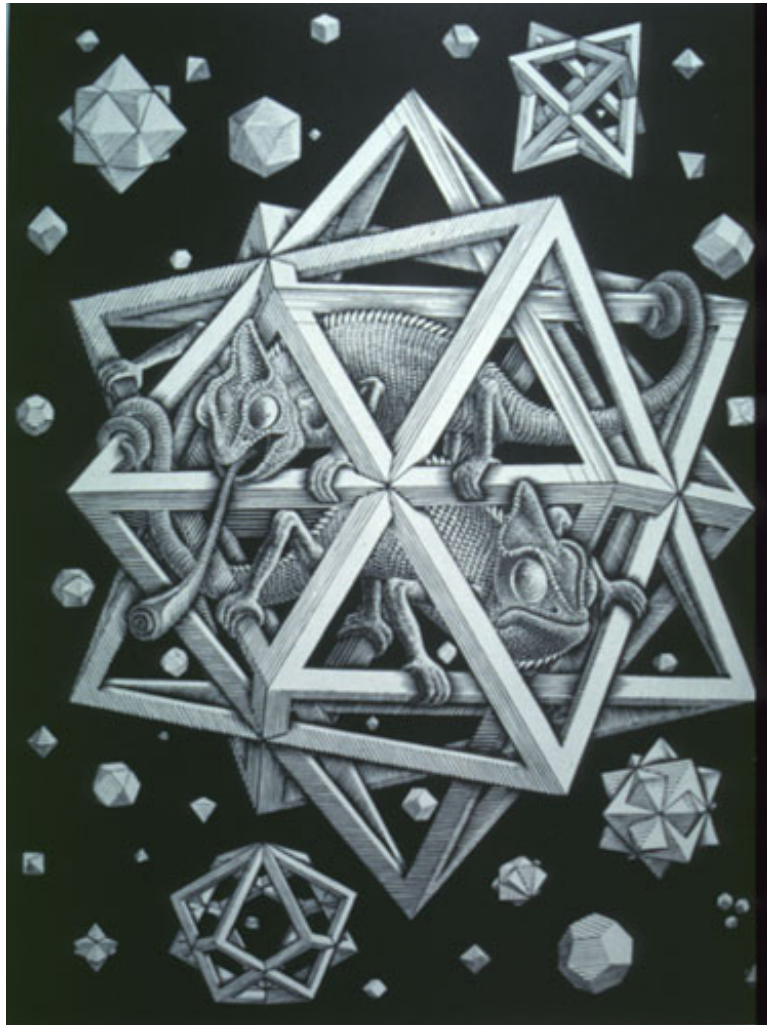
Fig. 1. Pattern whose symmetry group is (6, 4, 2) (with scaffolding). Two adjacent triangles (one white and one black) form a fundamental region.

From H.S.M. Coxeter: "The Non-Euclidean Symmetry of Escher's Picture *Circle Limit III*" pp.19-25



Other World, 1947, Fine Arts Museums of San Francisco, CA.

Depending upon which of this room's three windows we look out, we find our point of view is completely different and irreconcilable from each of the others.



Stars, 1948

Perspective



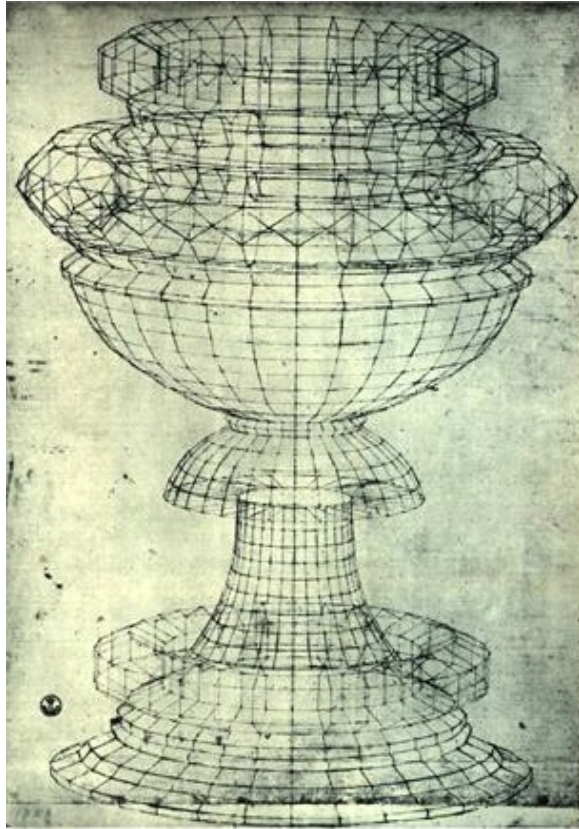
Initial word panel of Psalm from the Kaufmann Haggadah. Spain, late 14th C.
No perspective



Donatello; Relief: St. George and the Dragon
Earliest known example of perspective.



Piero della Francesca (1420-1492); *Flagellation of Christ*, c. 1460



Paolo Uccello (born Paolo di Dono) (Italian, 1397-1475),
Perspective Study of a Chalice, pen and ink on paper, 29 x 24.5 cm,
Gabinetto dei Disegni, Uffizi, Florence



Vincent van Gogh (Dutch, Zundert; 1853-1890; Auvers-sur-Oise), *Corridor in the Asylum*, September 1889



Roy Lichtenstein (American, 1923-1997), the six prints in the *Bull Profile Series*

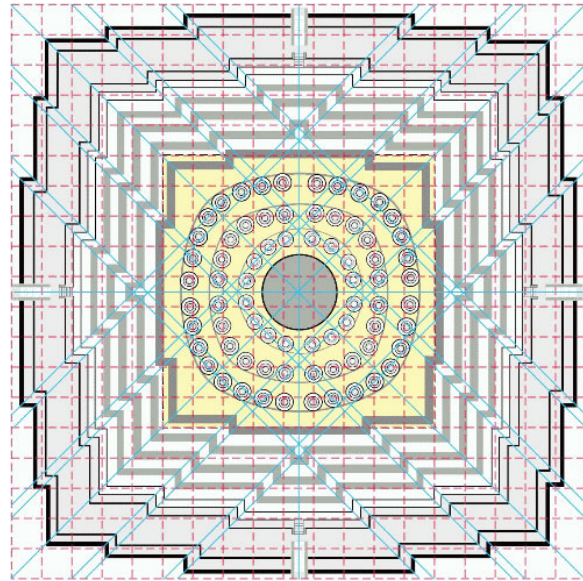
Mandala

Any of various radial geometric designs symbolic of the universe, traditionally used in Hinduism and Buddhism as an aid to meditation.

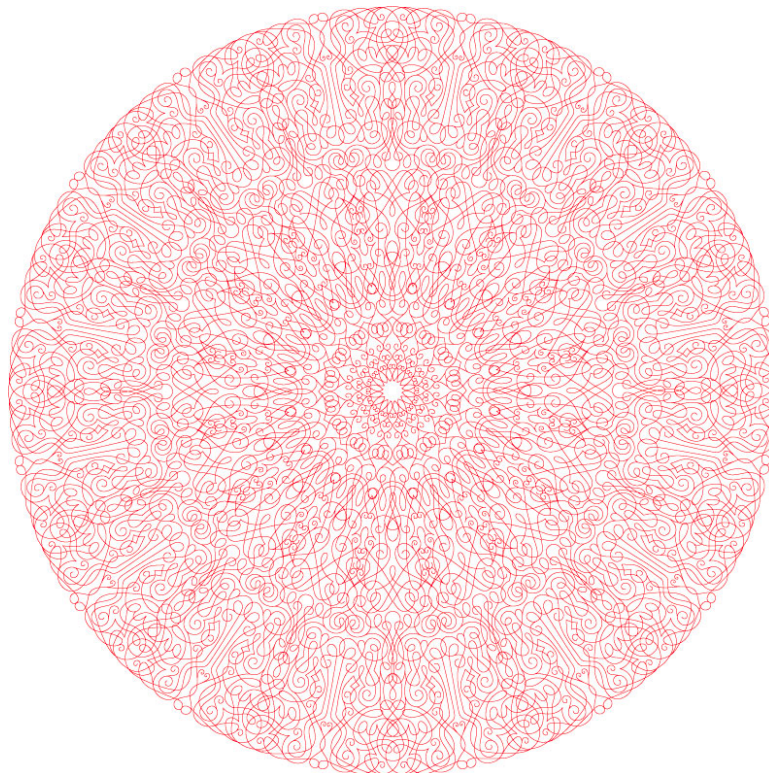


Borobudur

One of the most magnificent Buddhist shrines in the world, Borobudur was built at the end of the 9th century by the Hindu kings of the Sailendra dynasty. Borobudur is located 42 km west of Yogyakarta, on the island of Java in Indonesia.



Grid lines of Borobudur

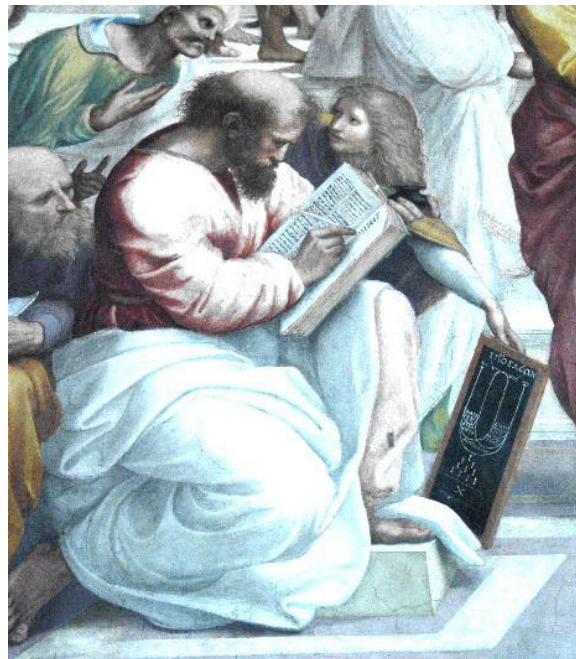


Marian Bantjes (Canadian, contemporary), *Mandala*, 2004, pattern produced with computer graphic software.

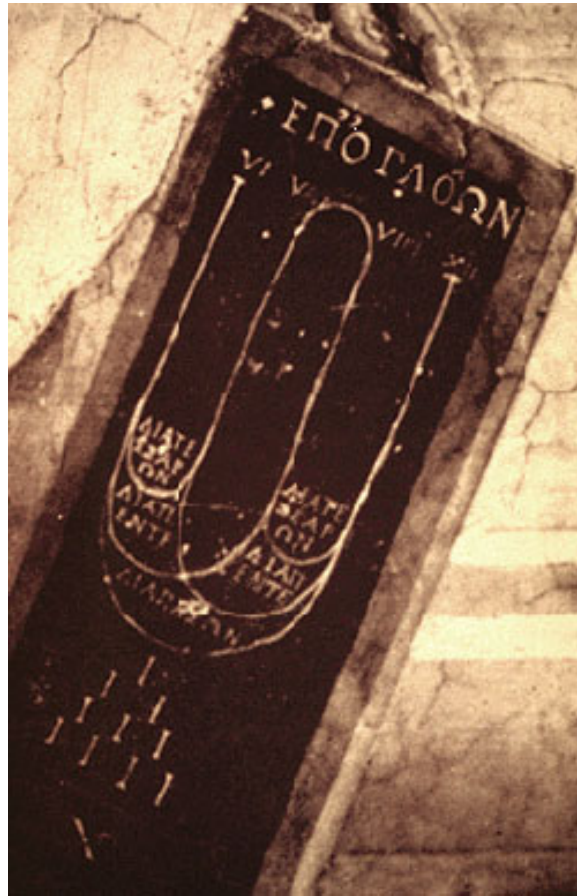
Pythagoras



Raphael's *School of Athens* 1510-11.



Pythagoras in Raphael's *School of Athens*



Closeup of Tablet

Raphael's School of Athens shows Pythagoras is explaining the musical ratios to a pupil.

The tablet shows:

The words diatessaron, diapente, diapason.

The roman numerals for 6, 8, 9, and 12, showing the ratio of the intervals, same as in the music book frontispiece.

The word for the tone, EPOGLOWN, at the top.

Under the tablet is a triangular number 10 called the sacred tetractys.

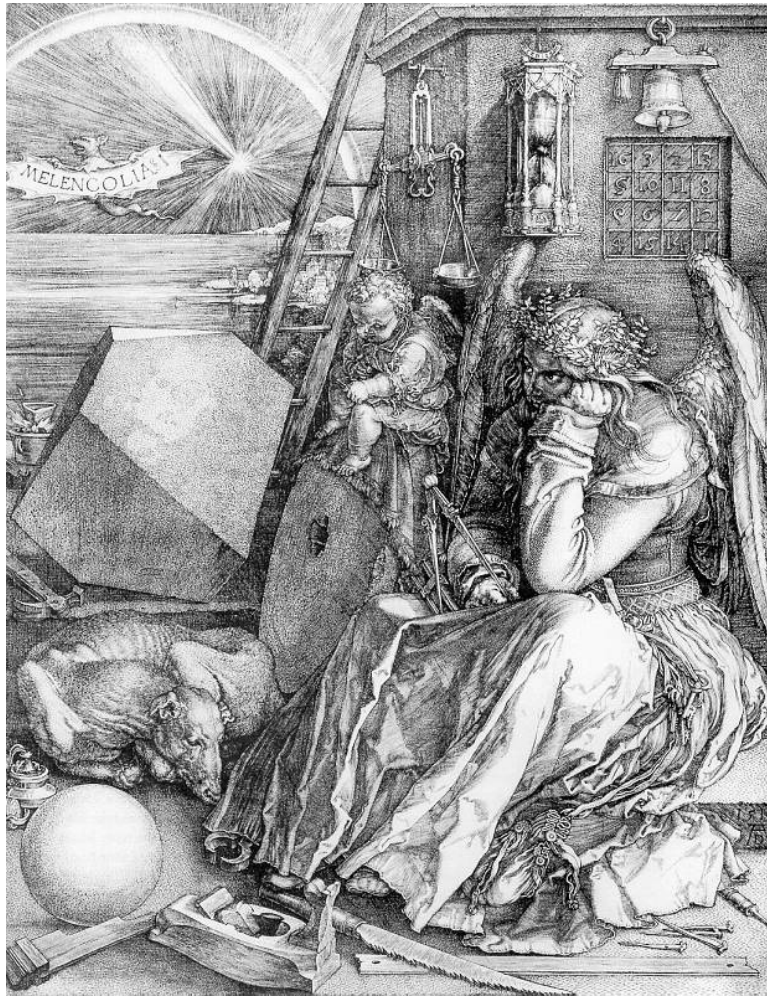
Polyhedra



Gold-plated lion from the front of the Gate of Heavenly Purity



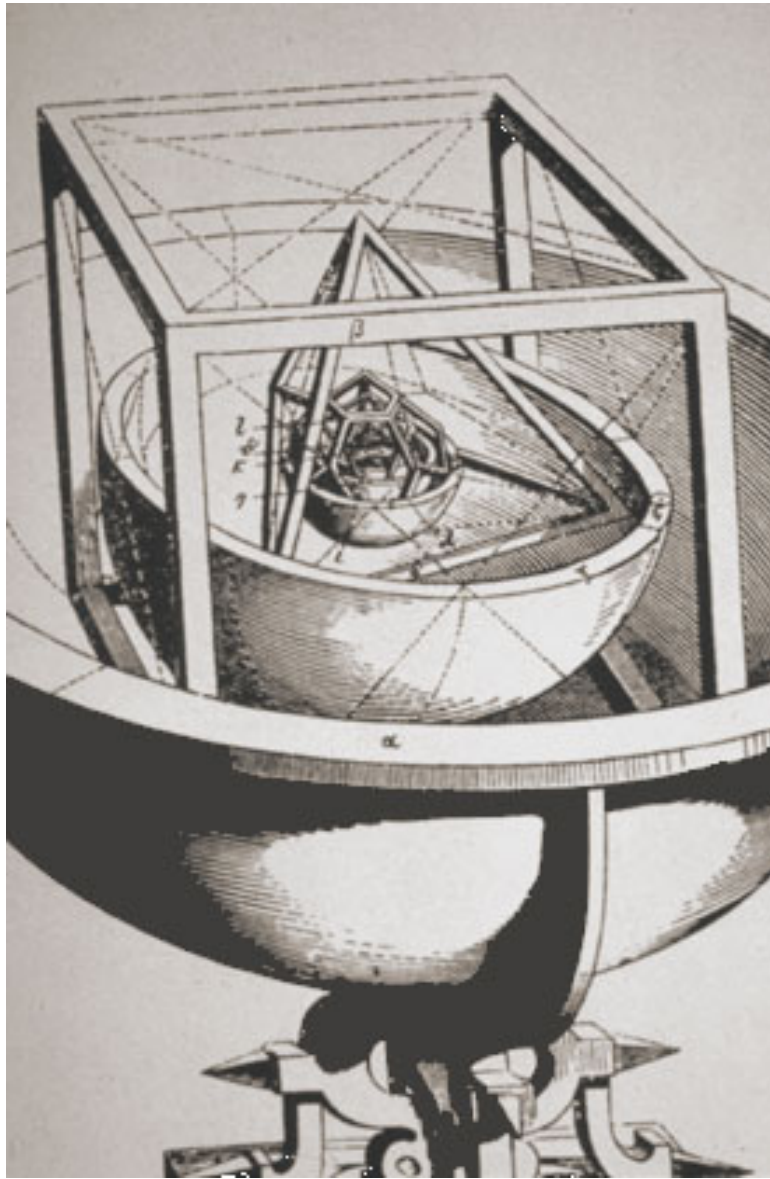
Closeup of ball, which has hexagons interspersed with pentagons.



Melancholia 1, 1514, copper plate engraving, 25 x 19 cm.

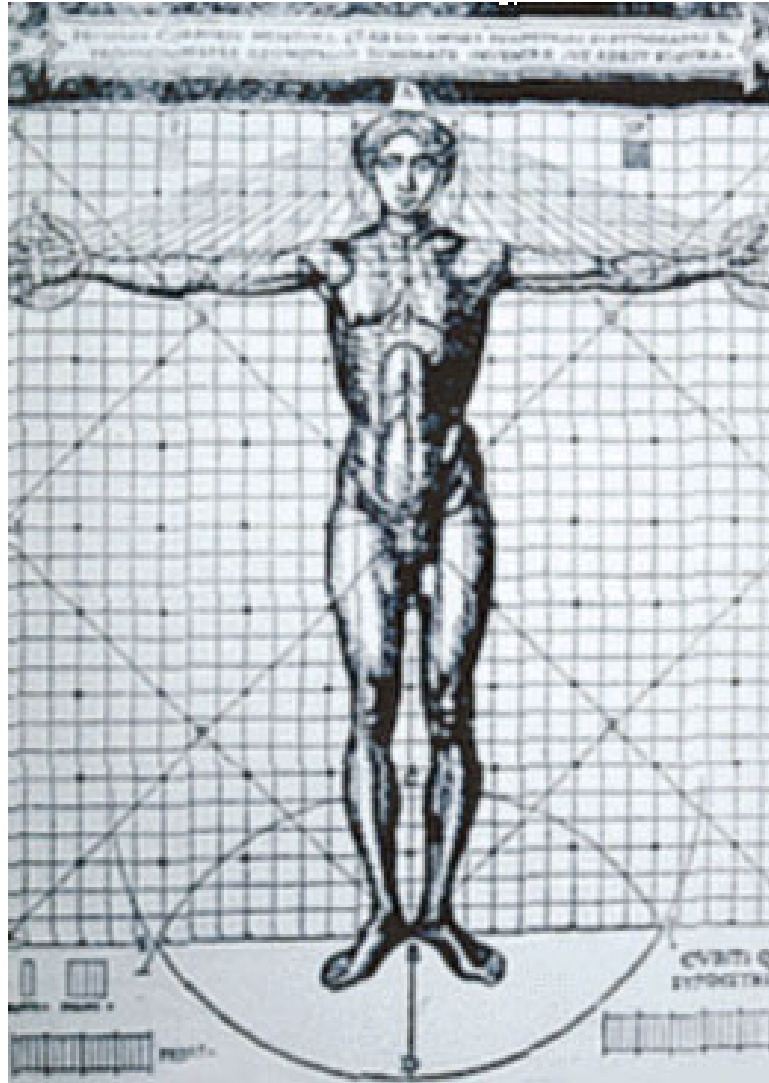
This picture is loaded with mathematical instruments and symbols as an angel broods over the nature of the universe.

In the upper right of Dürer's engraving, just below a bell, he placed a "magic square." This one can be decoded as "1514," the year Dürer witnessed the appearance of a bright comet at the same moment that a deadly plague was sweeping across Europe; the year the artist produced this design. Here's a link to an explanation of how the magic square works. This famous engraving shows an irregular polyhedron, as well as a sphere, a magic square, and compasses. People who have analyzed this polyhedron have decided that its actually a cube with opposite corners cut off.



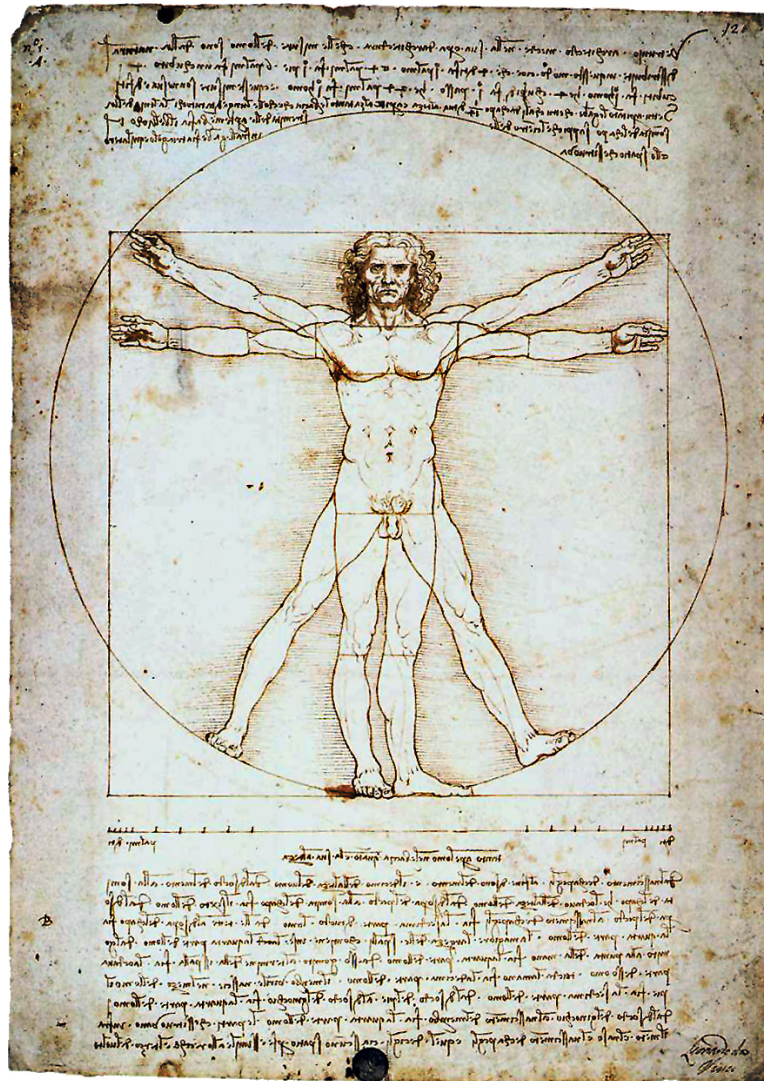
Kepler's Model of Universe

Vitruvian Man



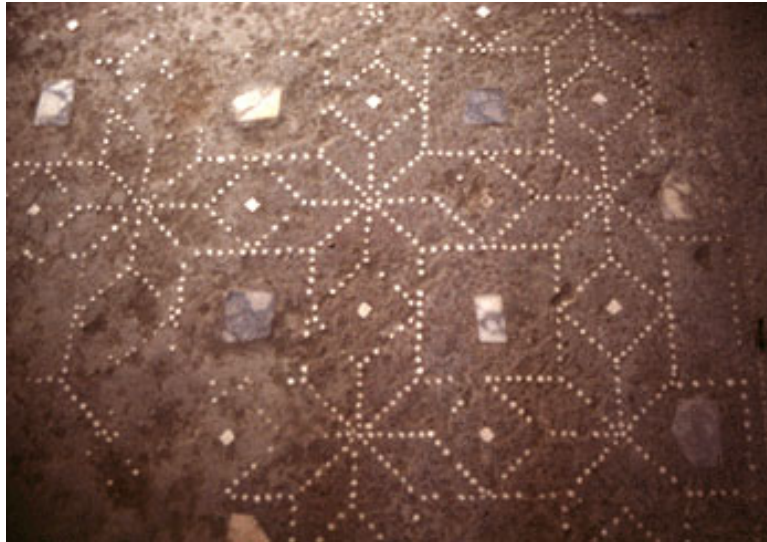
Vitruvian Man from Cesariano's edition of Vitruvius, 1521.

Vitruvius, whose full name is Marcus Vitruvius Pollio (70-25 BC), was a Roman architect and engineer, born probably in Formiae (now Formie), Italy. He was an artillery engineer in the service of the first Roman emperor, Augustus.



Leonardo da Vinci's Vitruvian Man

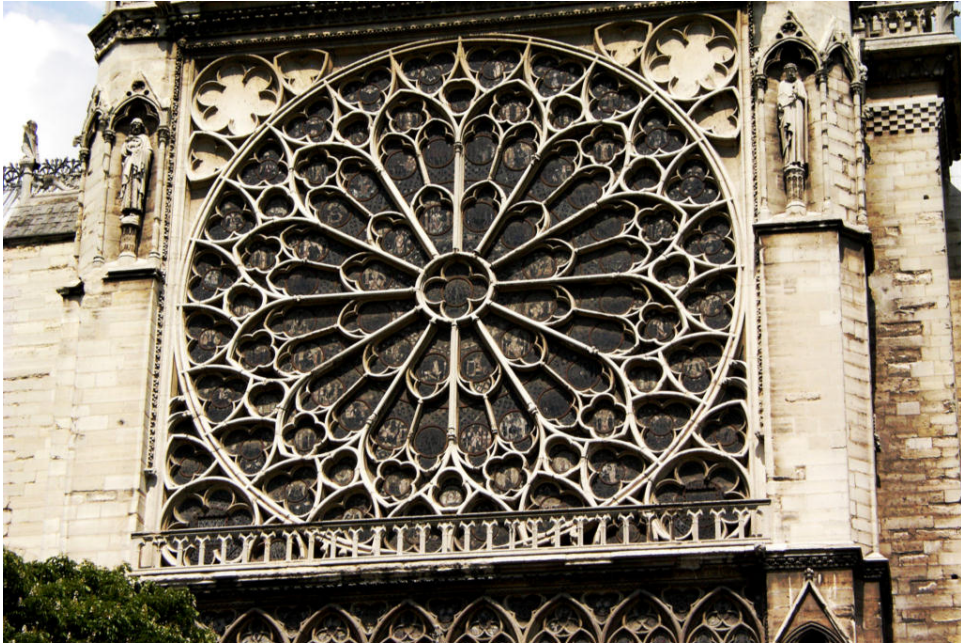
Pompeii



Floor Pattern from Pompeii



Ad Quadratum



Notre Dame Rose Window

Simultaneity



Balla: *Dynamism of a Dog on a Leash*; 1912
Albright-Knox Art Gallery, Buffalo, New York



Duchamp: *Nude Descending a Staircase*, 1912

Constructivism



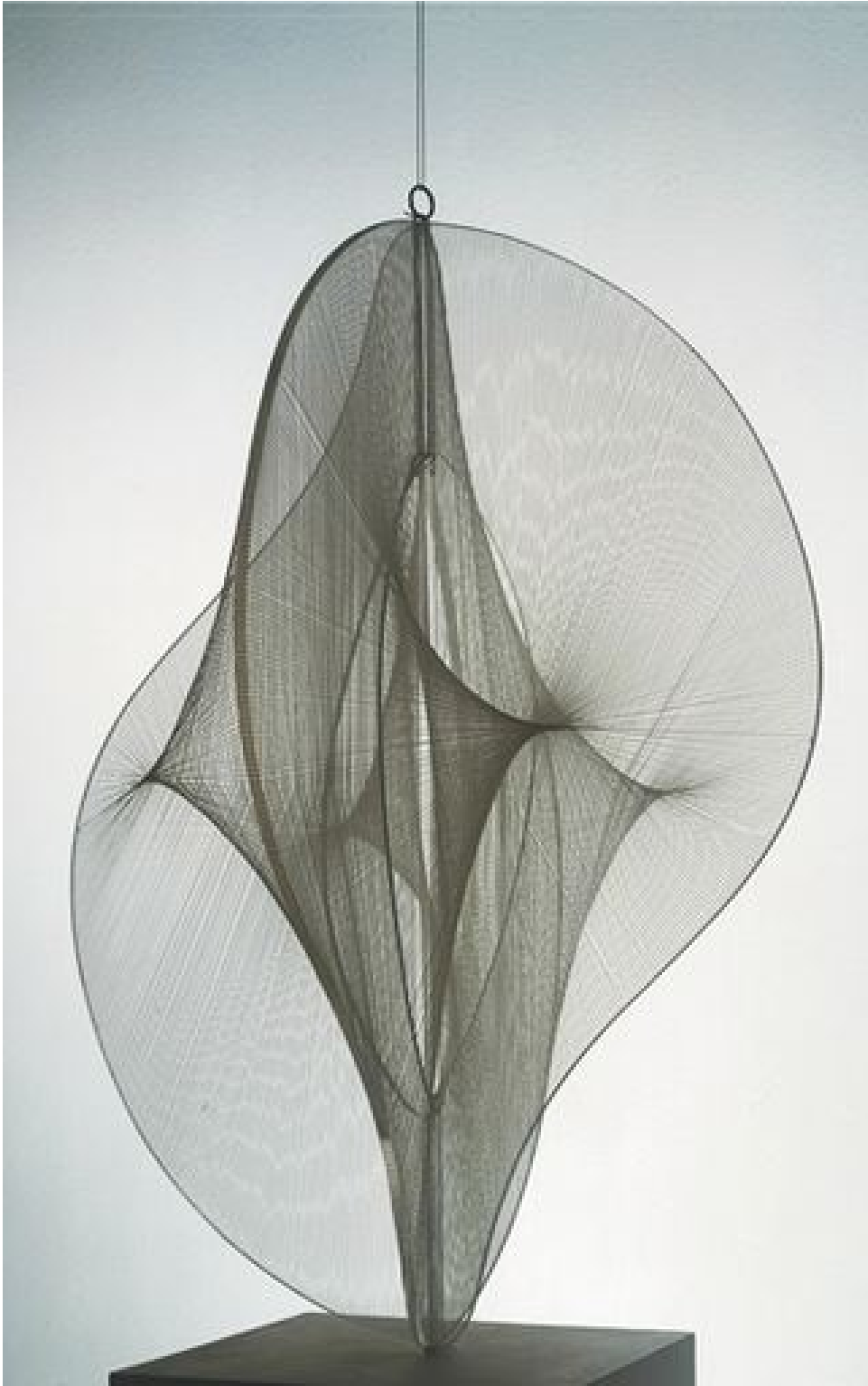
Picasso: *Violin*, 1913-14.



Bird in Space (LOiseau dans l'espace), 1932/40. Polished brass, 151.7 cm high, including base. Peggy Guggenheim Collection. 76.2553 PG 51. Constantin Brancusi 2005 Artists Rights Society (ARS), New York/ADAGP, Paris.



Revolving Torsion Fountain, 1972, Naum Gabo.
Placed in St. Thomas Hospital Garden.

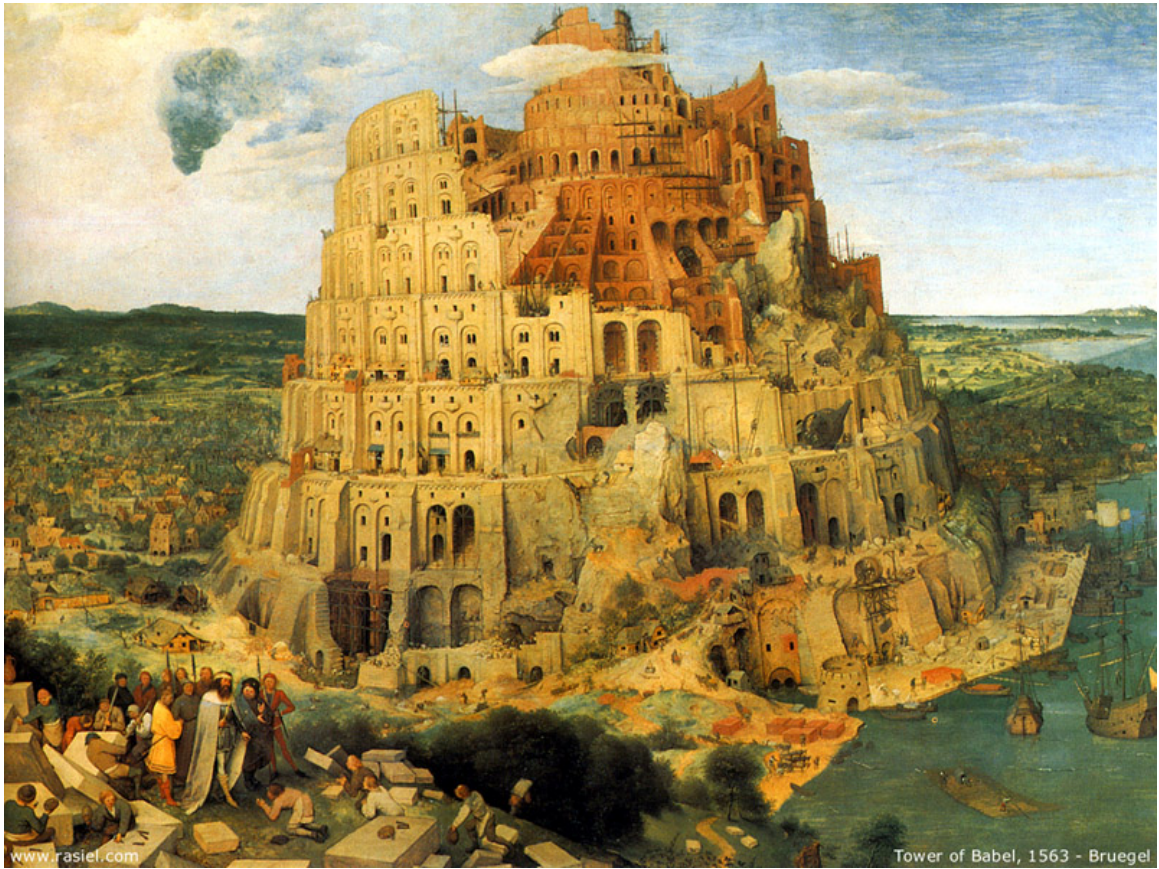


Linear Construction No. 2 1970-71

Plastic and nylon filament



Chicago's unnamed Picasso statue, often referred to as the "Chicago Picasso," can be found in downtown Chicago's Daley Plaza

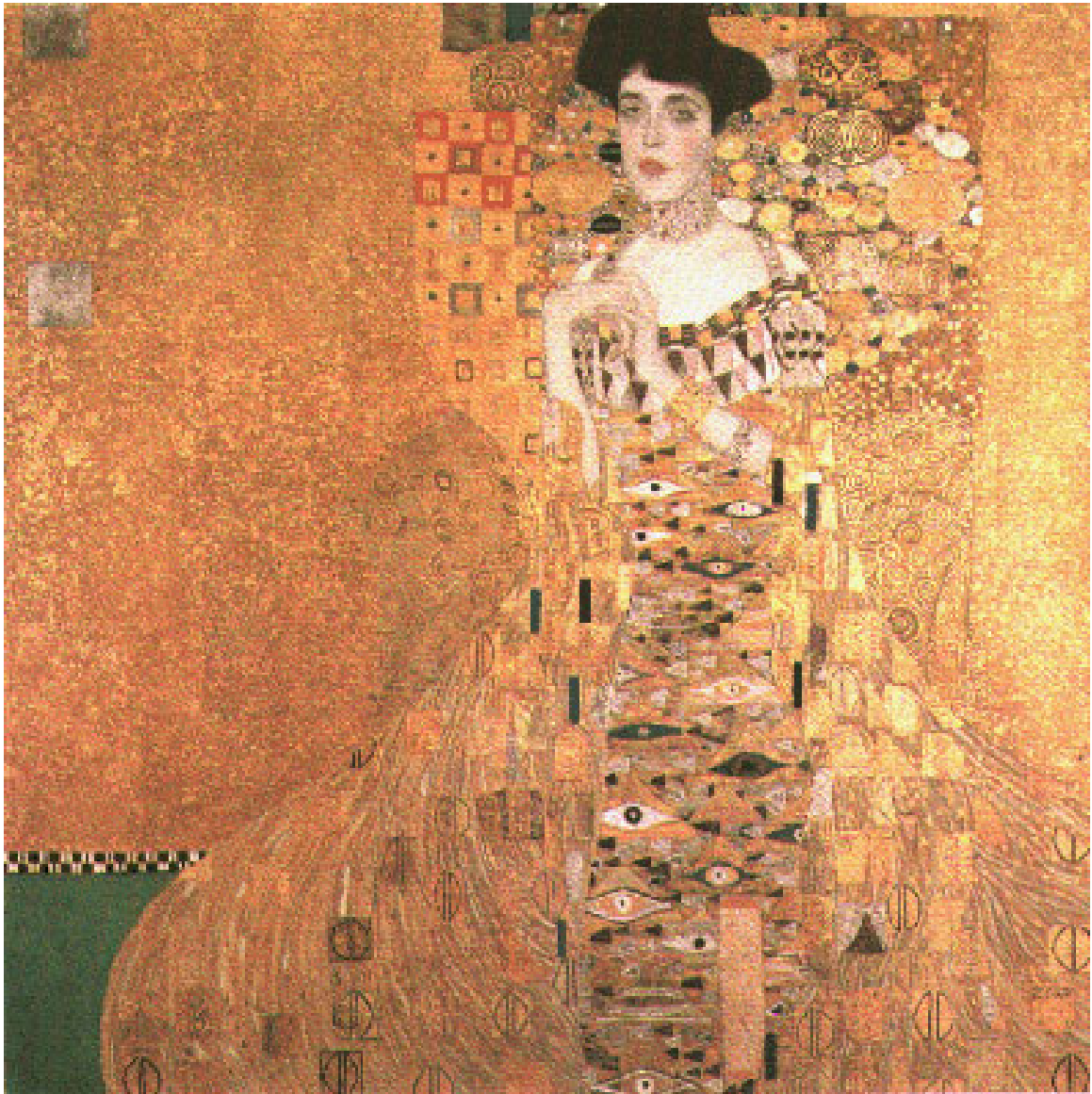


Pieter Bruegel the Elder [Flemish painter, 1525-1569]; *The Tower of Babel*,
1563
Kunsthistorisches Museum, Vienna

Patterns



Gustav Klimt, *The Kiss*, 1907-1908.



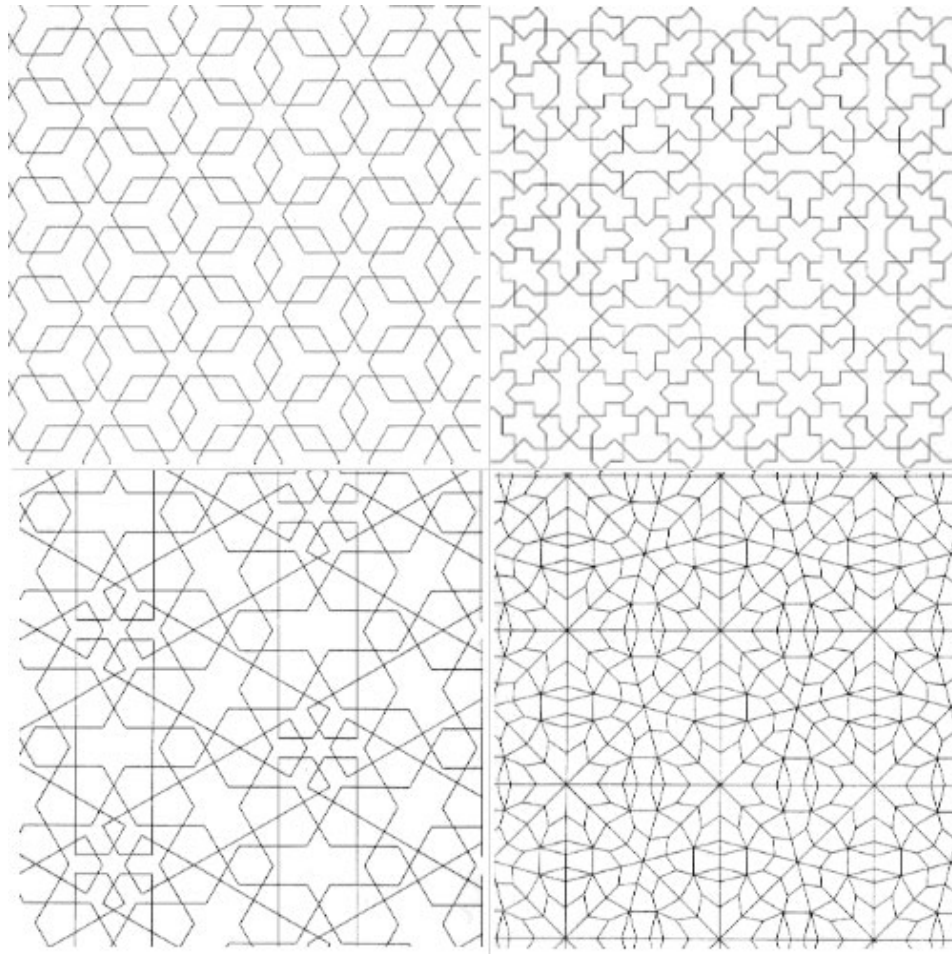
Gustav Klimt, *Portrait of Adele Bloch-Bauer I*, 1907.



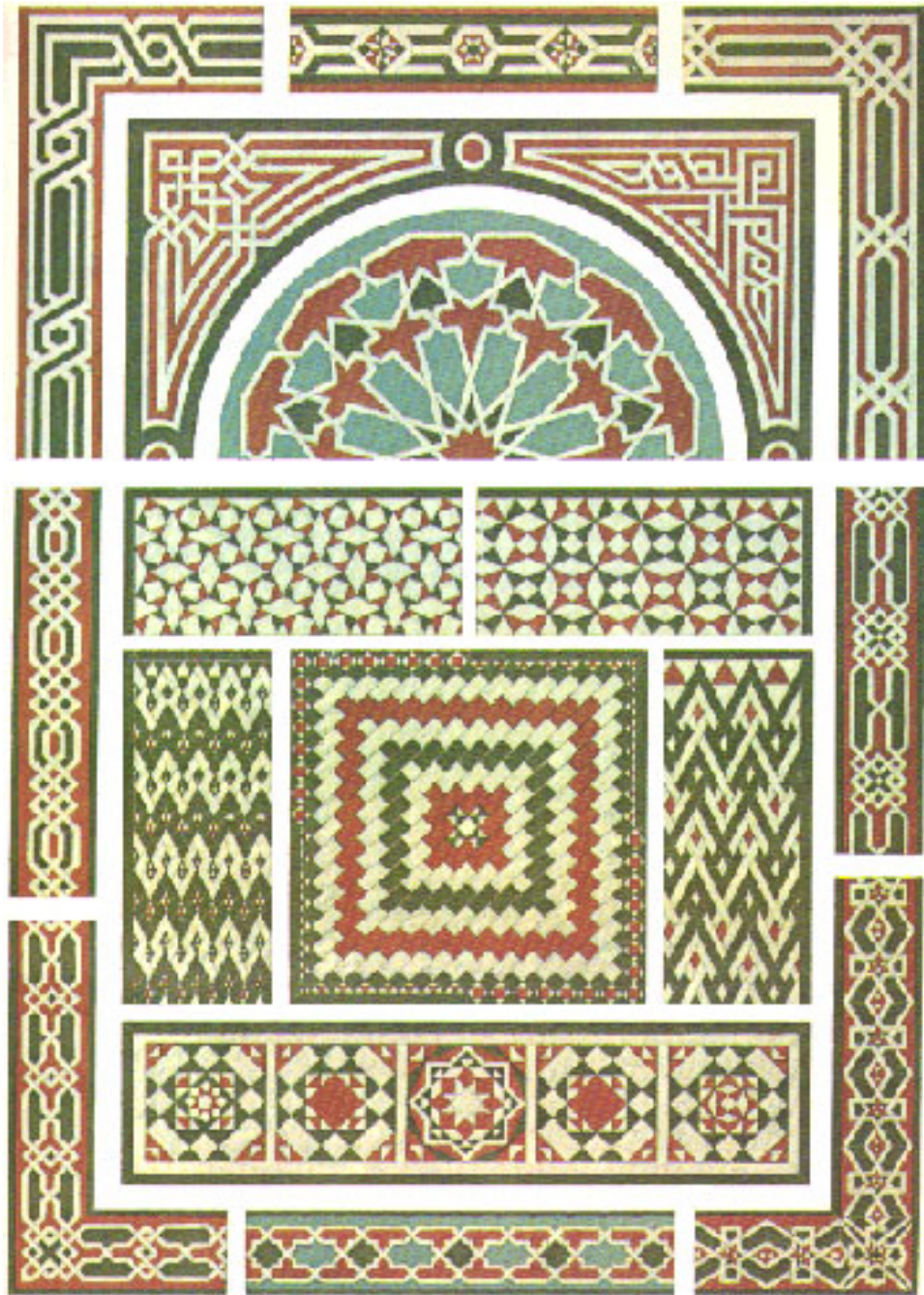
Moroccan praying



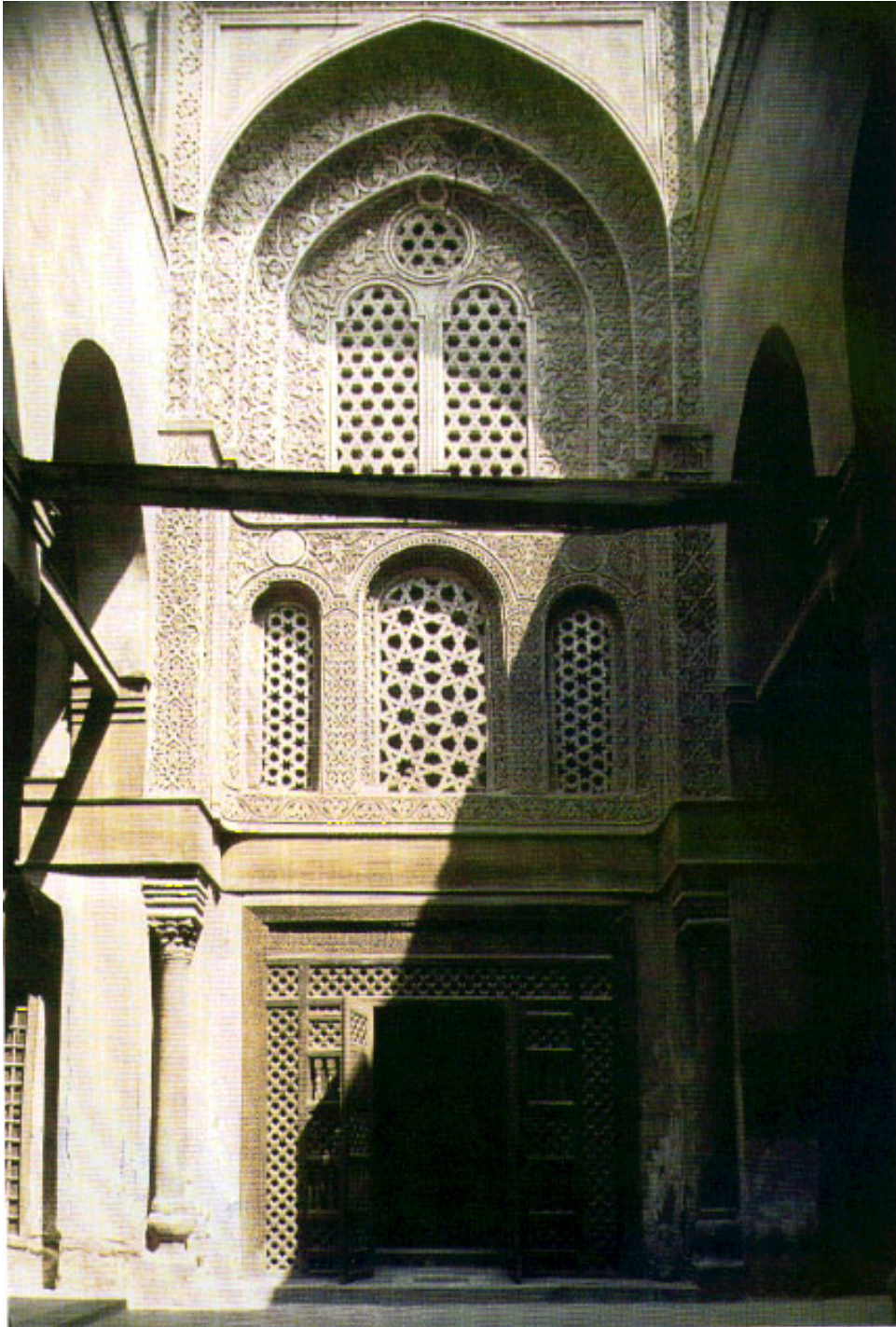
Design from decorative painting on Bukhara architecture.



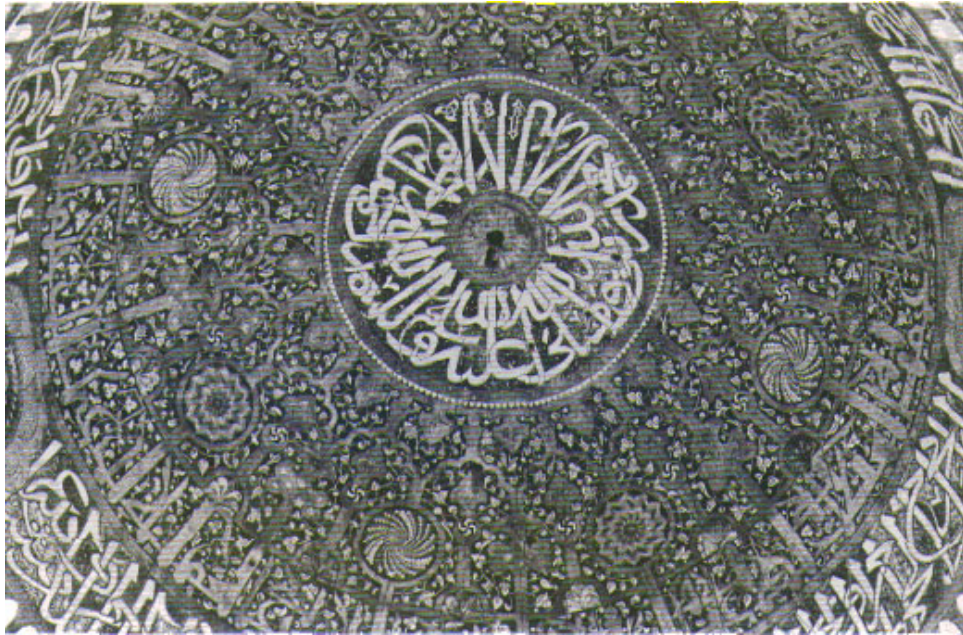
Arabic Allover Patterns



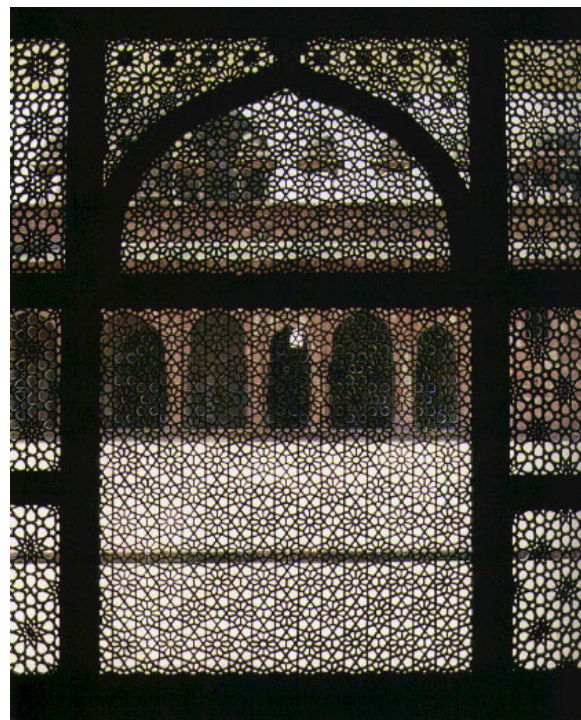
Details from mosaic facings and pavements (15th through 18th centuries).



Cairo, Complex of Qala'un, entrance to mausoleum

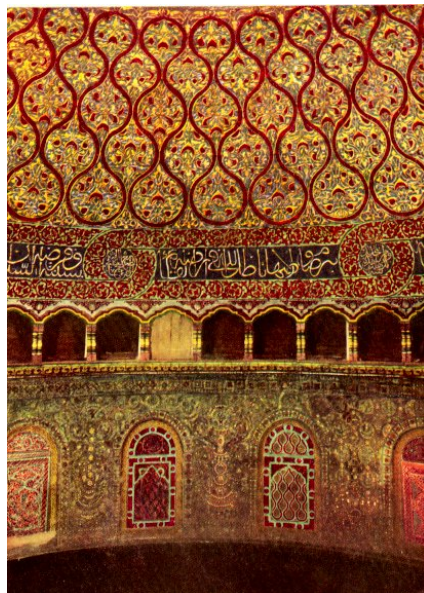


Ta'izz, Ashrafiyya Mosque, interior of main dome

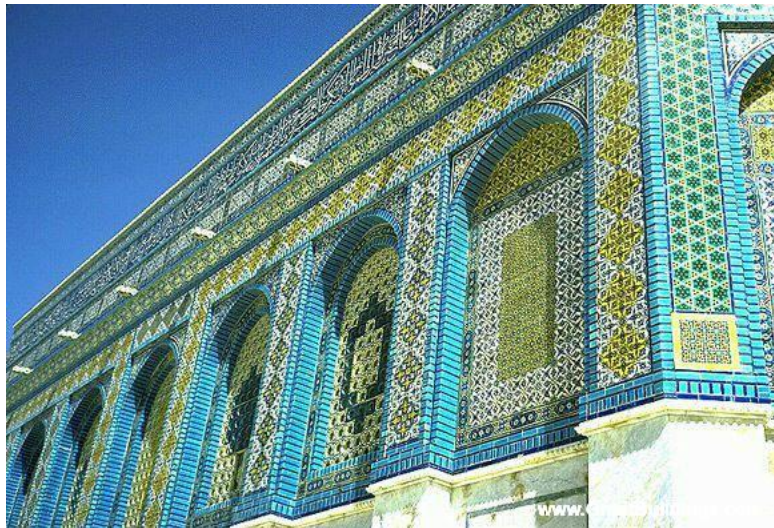




Dome of the Rock, by unknown, at Jerusalem, Israel.



Beneath the dome of the Mosque of Omar



Exterior tiling



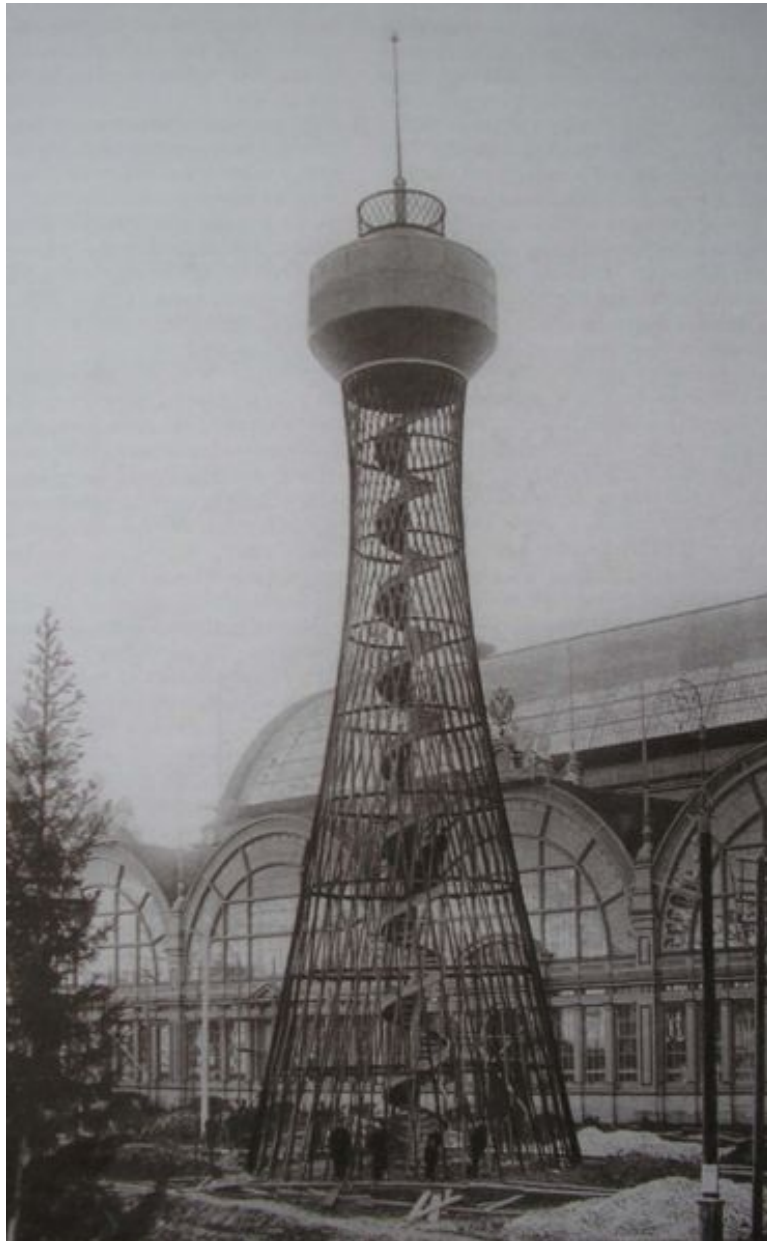
A glass rhombicuboctahedron in Jacopo de Barbari's portrait of Pacioli, painted in 1495



Saint Mark's Basilica (Basilica di San Marco) in Venezia



Virupaksha Temple, Hampi, India



The First in the World Hyperboloid Tower by great Russian engineer and scientist Vladimir Grigorievich Shukhov; 1896



Kobe Port Tower, Kobe, Hyogo, Japan



Hyperboloid Cathedral in Brasilia by Oscar Niemeyer



Partial view of the hyperbolic roof Olympiapark, Munich, tensile structure



Labyrinth at Chartres Cathedral. Photo: Jeff Seward.



Anamorphosis: The Ambassadors (1533), by Hans Holbein the Younger (1497/8 - 1543)