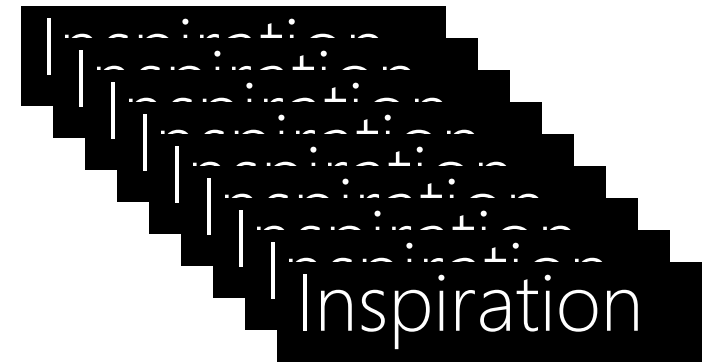


MUNI
FI

PATTERN



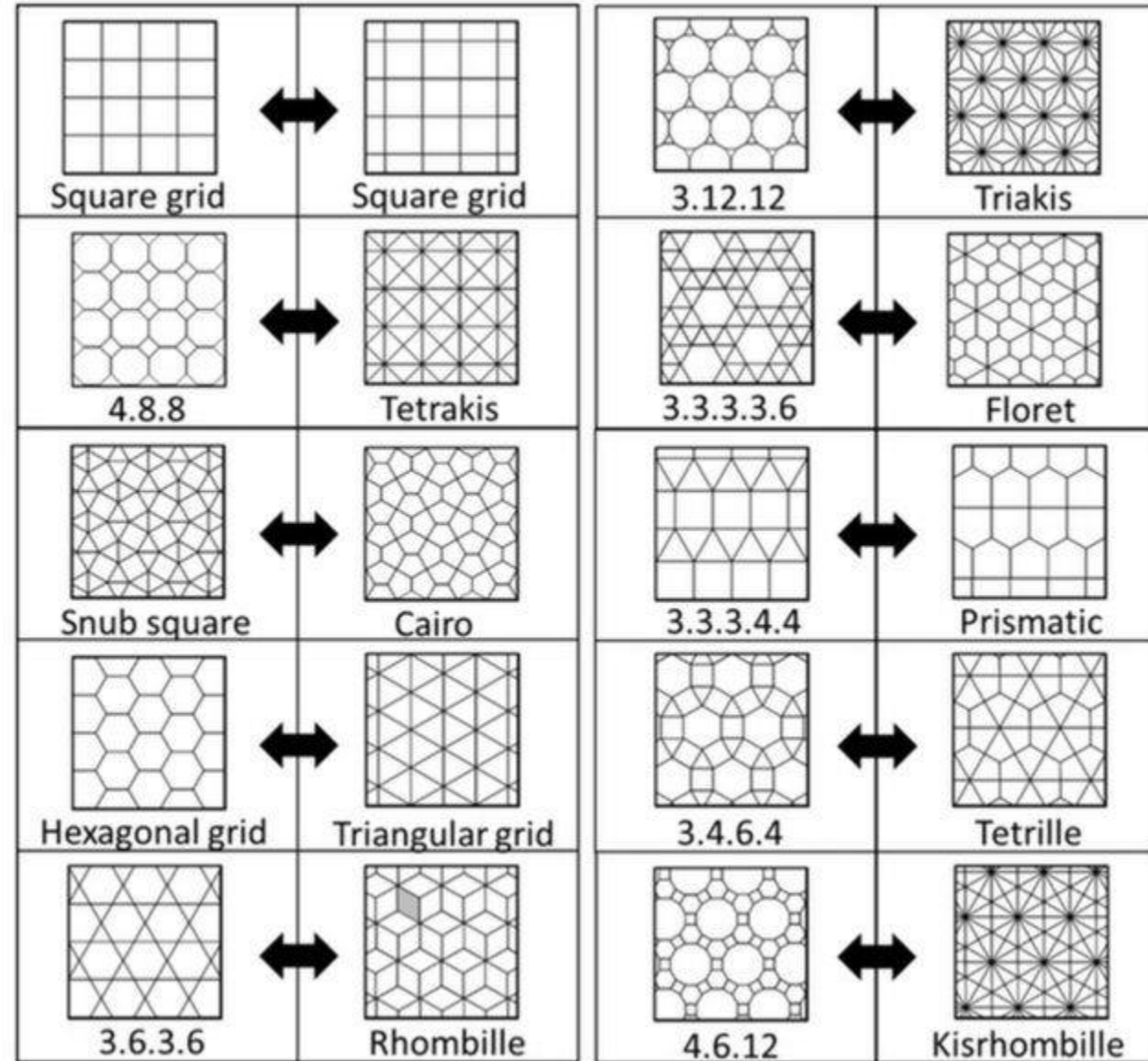
Generative Design
Programming

Mgr. art. Helena Lukášová, ArtD.

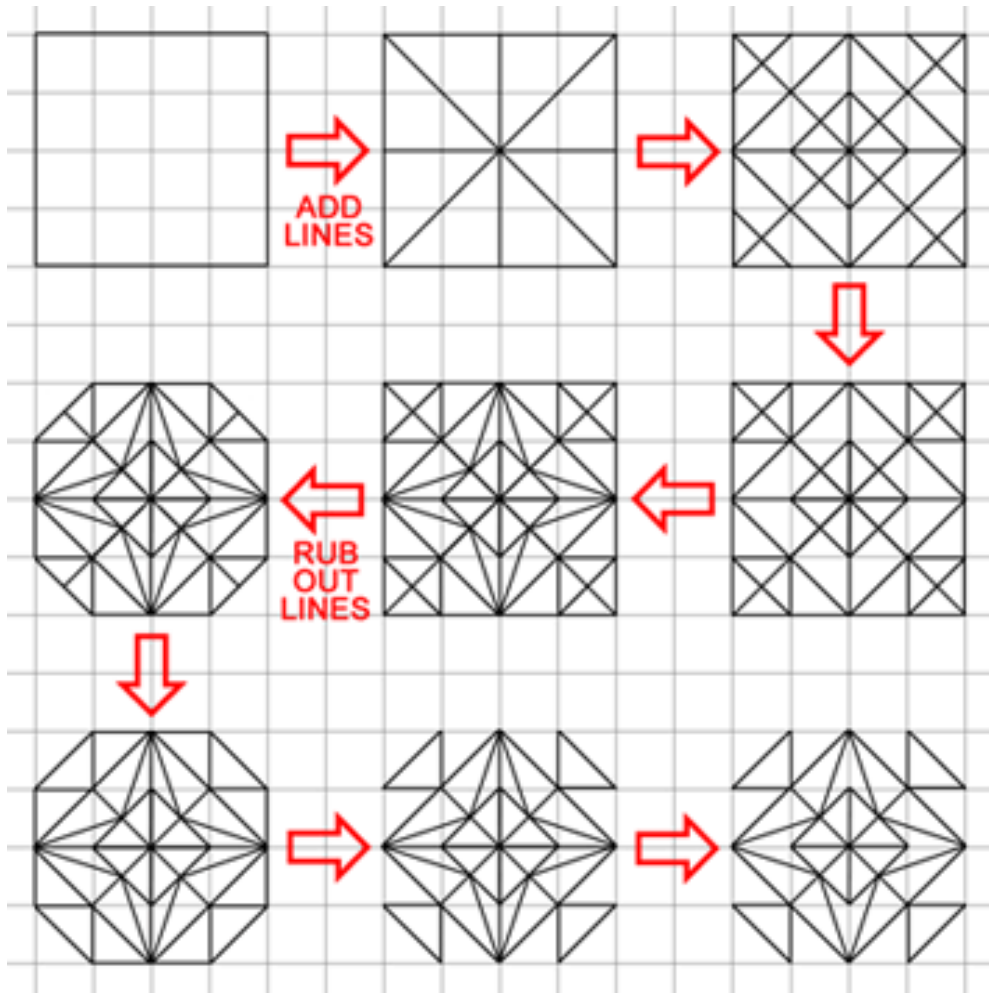
PATTERN

IS a regularity in the world, in human-made design, or in abstract ideas. As such, the elements of a pattern repeat in a predictable manner.

Tessellation is created when a shape is repeated over and over again covering a plane without any gaps or overlaps. Another word for a tessellation is a tiling.



Islamic Pattern



In Islamic culture very complex geometric patterns were created. We can admire them especially in architecture as tile walls and ceiling.

The abstract visual thinging comes also from the Islamic rule not to depict Allah. We do not see images of the real world in Islamic architecture.

The construction of the pattern is done with the straigh lines and circles.

Islamic Pattern

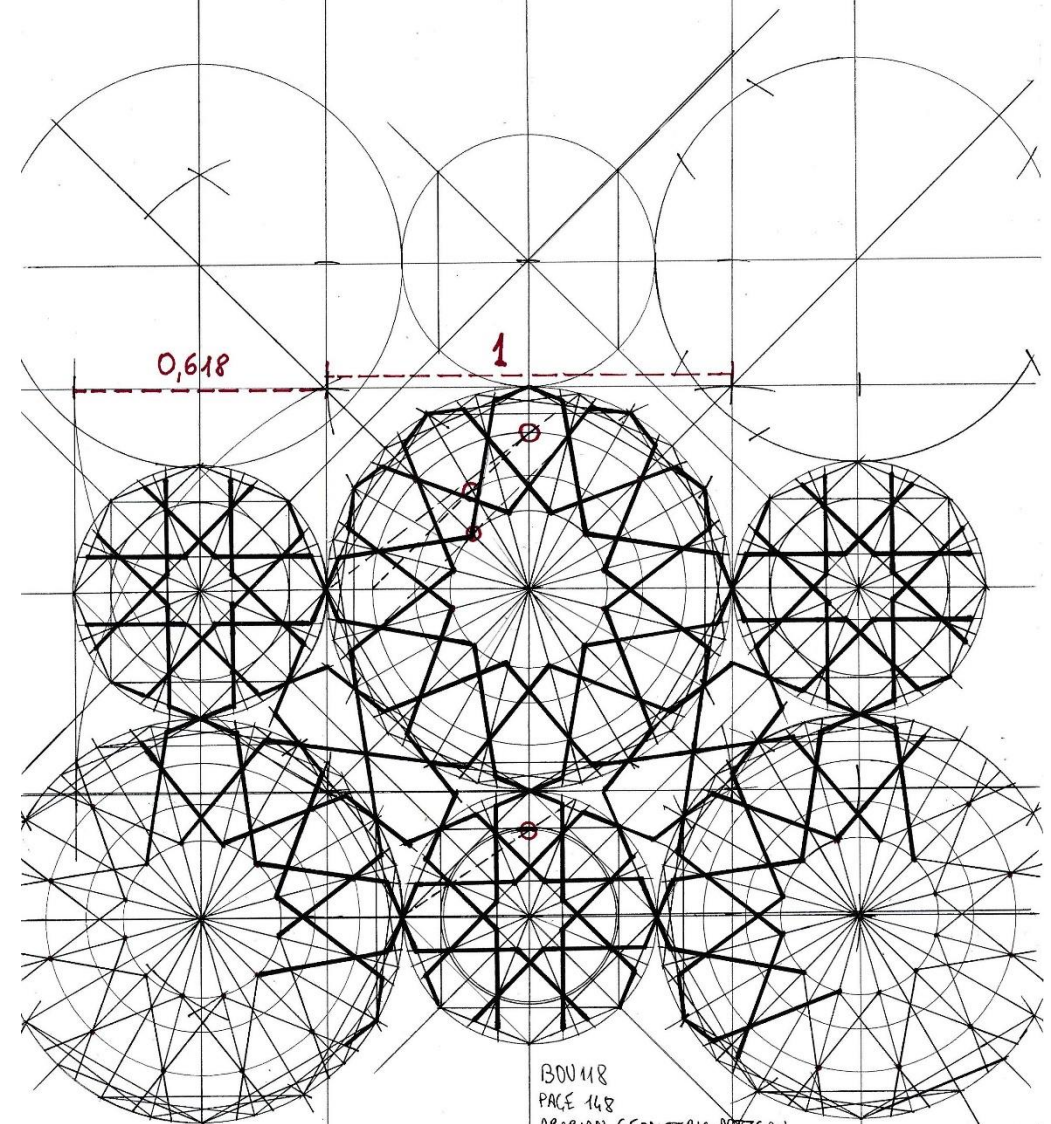
$x^2 = 2r^2 - 2r^2 \cos 45^\circ$
 $y^2 = 2r^2$

دائرة شعاعها r محيطه $d = 2\pi r$
 قانون كوساينس $\alpha = 45^\circ$
 مربع قضايا 45° $x^2 = 2r^2 - 2r^2 \cos 45^\circ$
 دائرة شعاعها r محيطه $d = 2\pi r$

$\sum d_i = (n-2) \cdot 180$
 $\sum d_i = (8-2) \cdot 180 = 1080^\circ$
 $\sqrt{4}$ $d = 35^\circ$

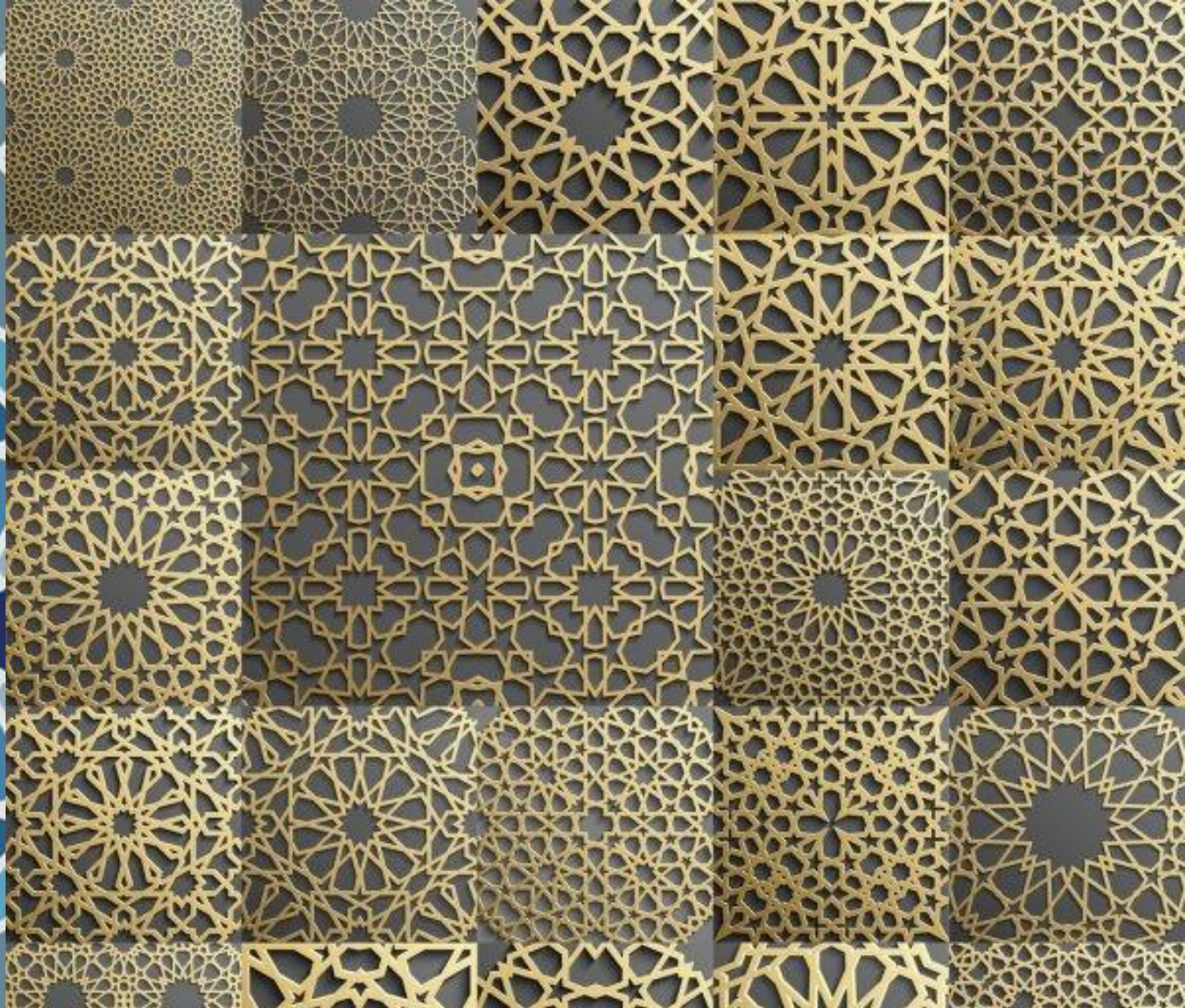
اربع اذواج اجزاء مستقيمة متساوية
 تقاطع التمرج ودوران
 قضايا a, s, y $y = s + 2a$
 $y = s + 2a$; $s^2 = 2a^2 \Rightarrow a = \frac{s}{\sqrt{2}}$
 $\Rightarrow L = s(1 + \sqrt{2}) \Rightarrow s = \frac{L}{(1 + \sqrt{2})}$

زخرفة من جامع القيروان
 مؤنس 670 ميلادية

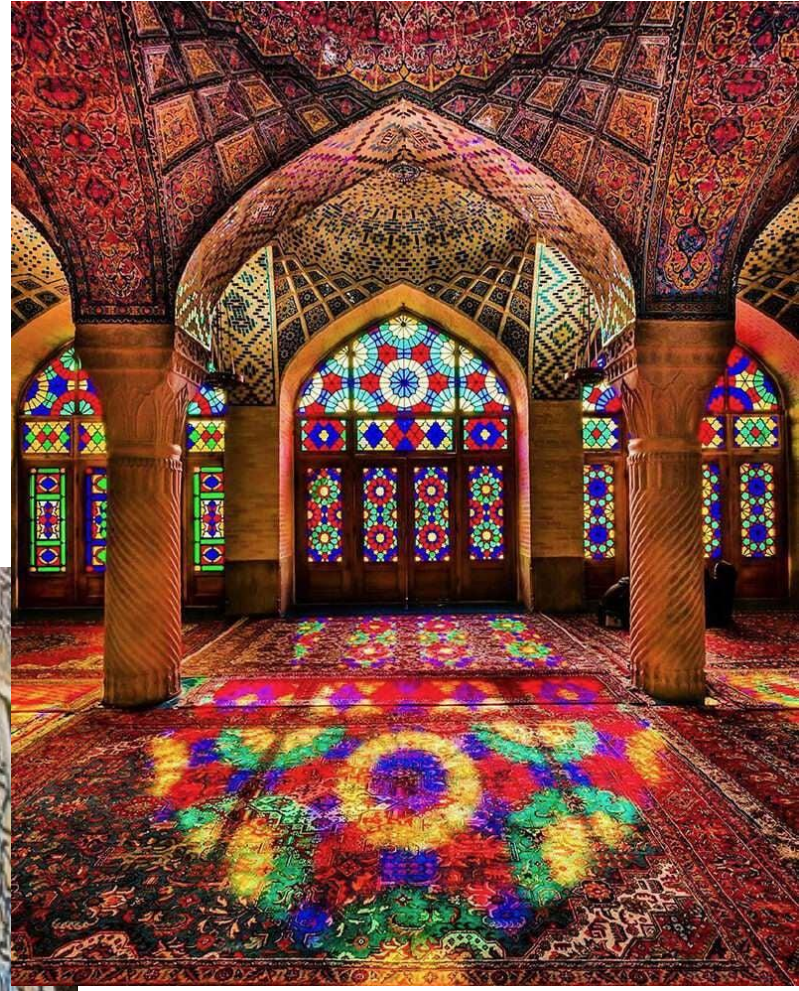


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 PAGE 148
 ARABIAN GEOMETRIC PATTERN
 2016/11/14

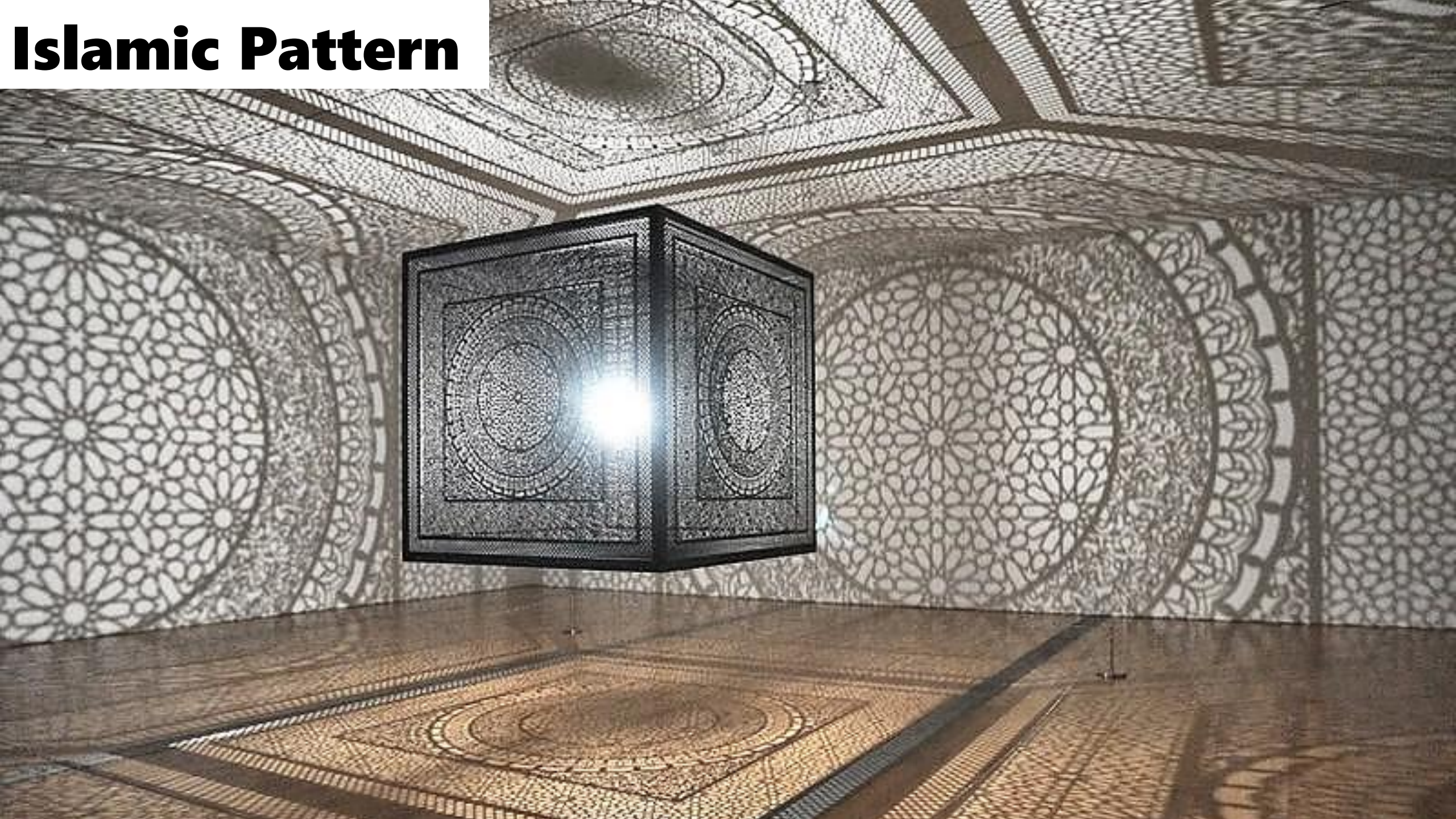
Islamic Pattern



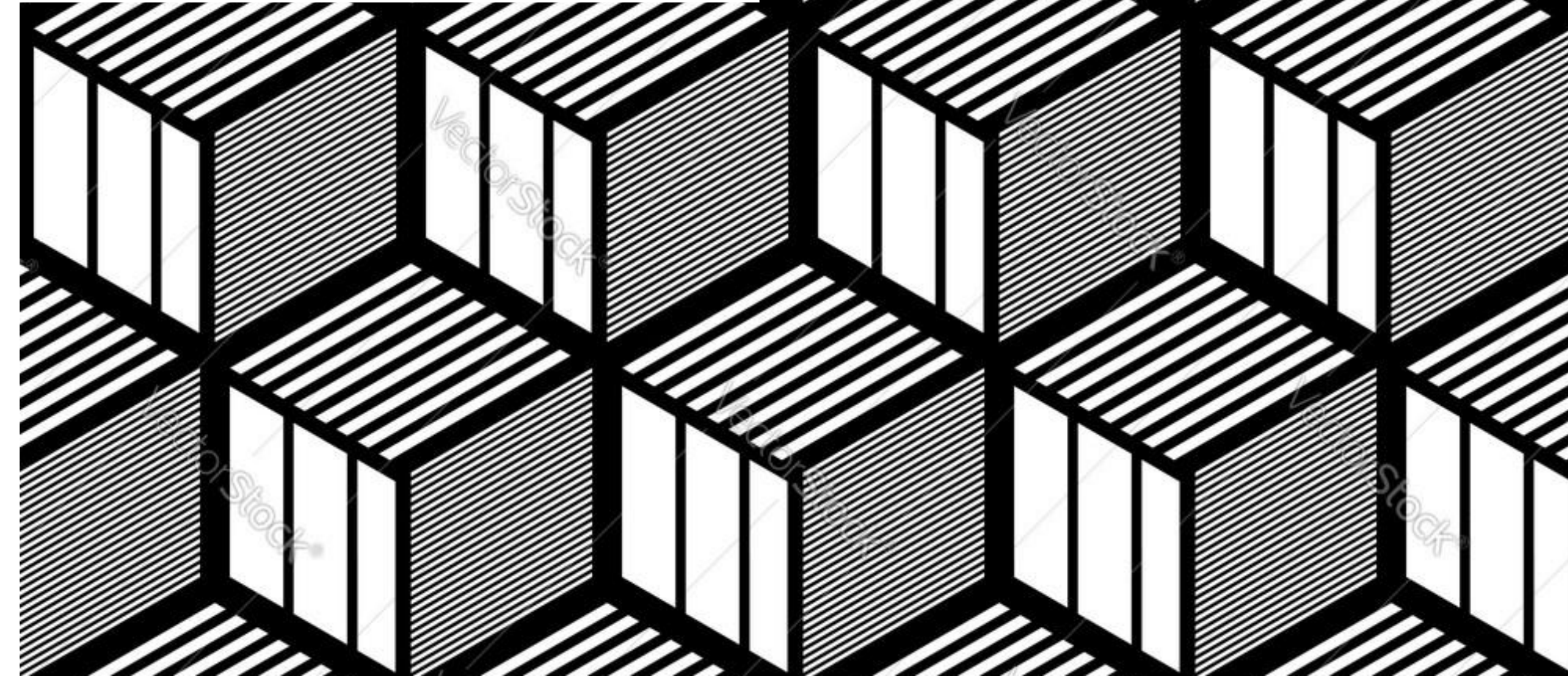
Islamic Pattern



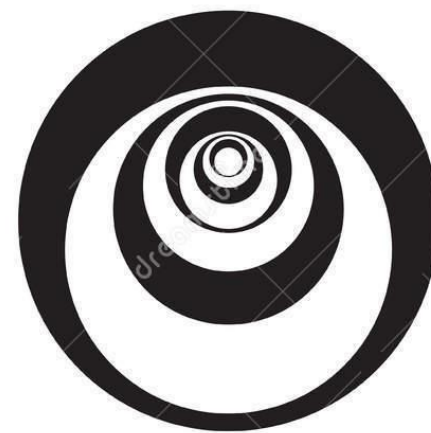
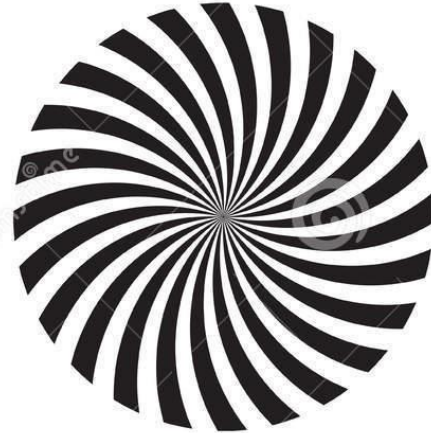
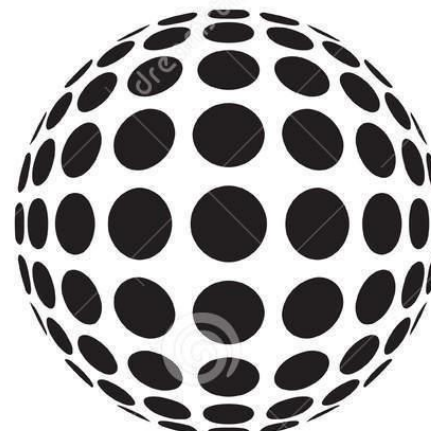
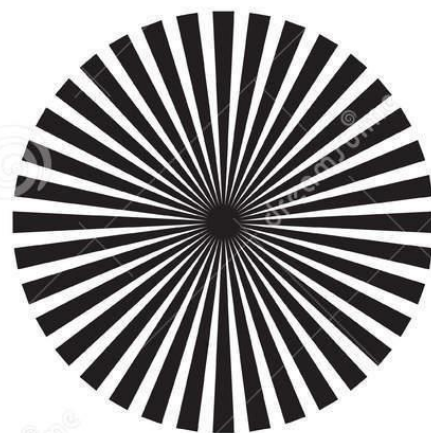
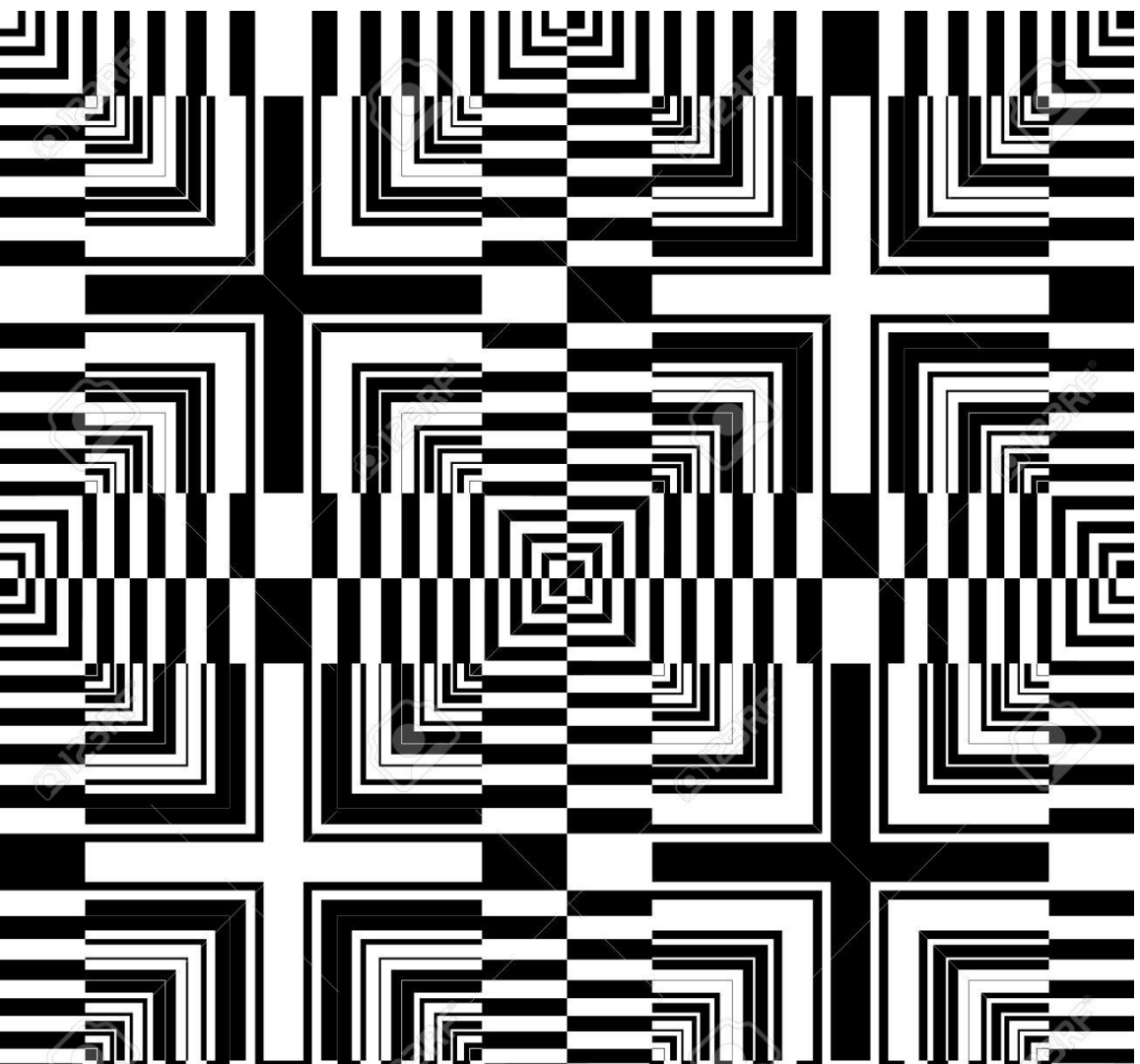
Islamic Pattern



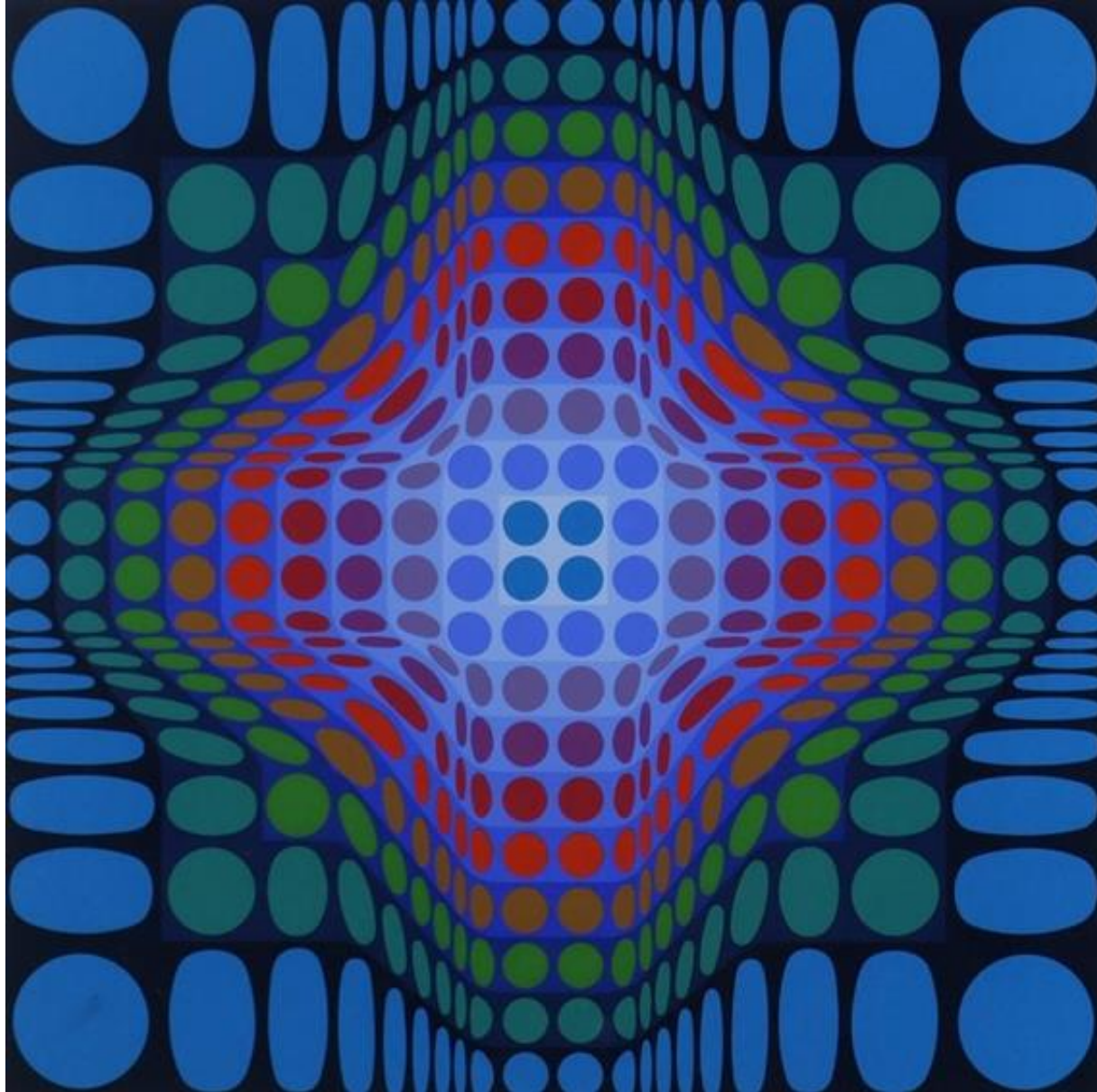
Op Art gives an illusion of 3D spatial structure or optical illusion of movement



Op Art gives an illusion of 3D spatial structure or optical illusion of movement



Op Art



Victor Vasarely



African Pattern

Ndebele

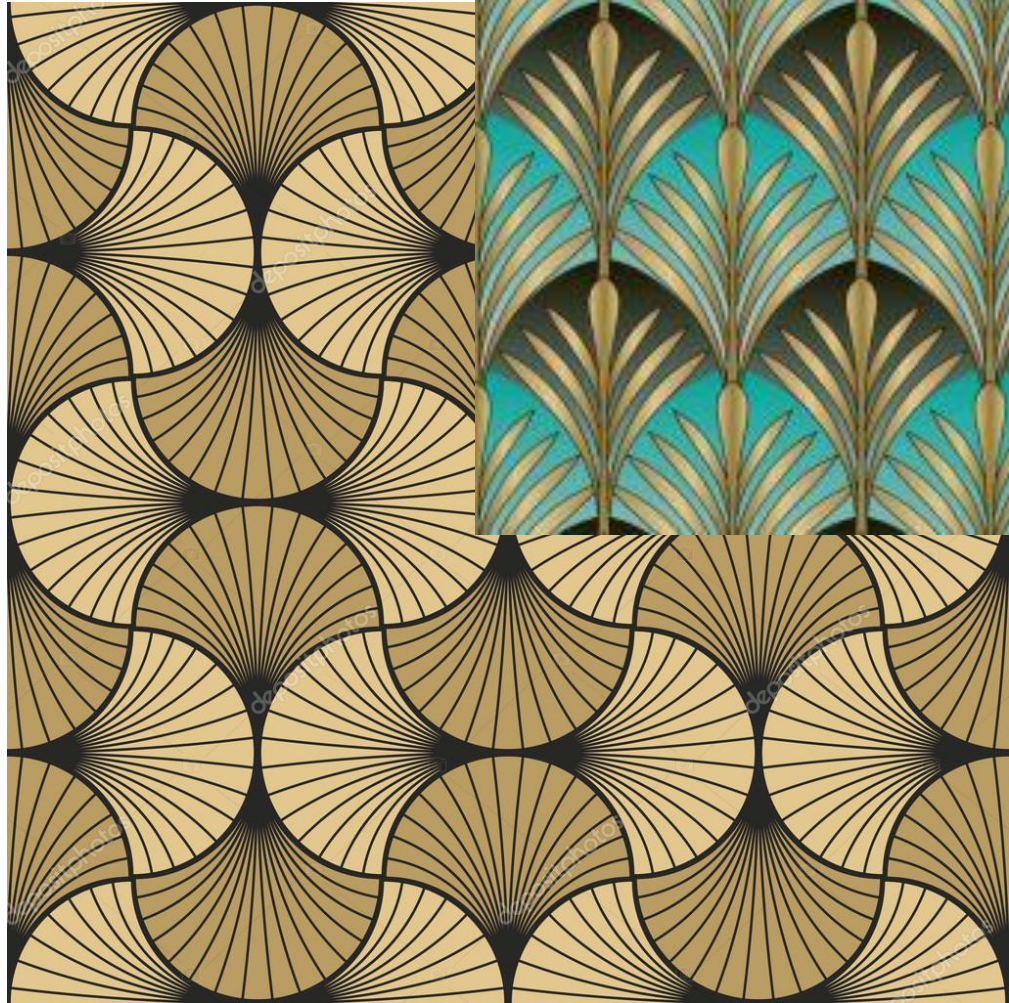


African Pattern

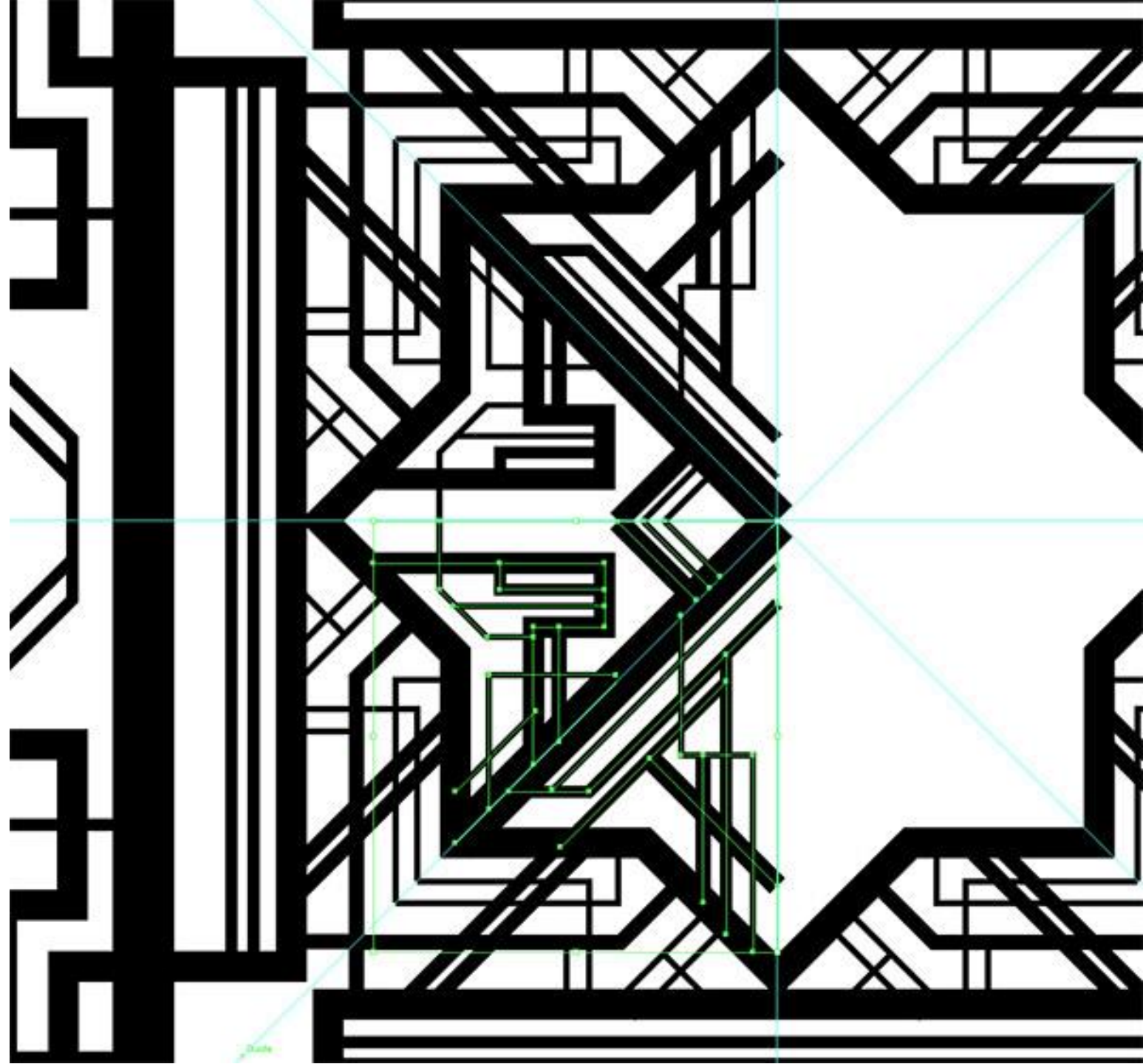
Ndebele



Art Deco Pattern

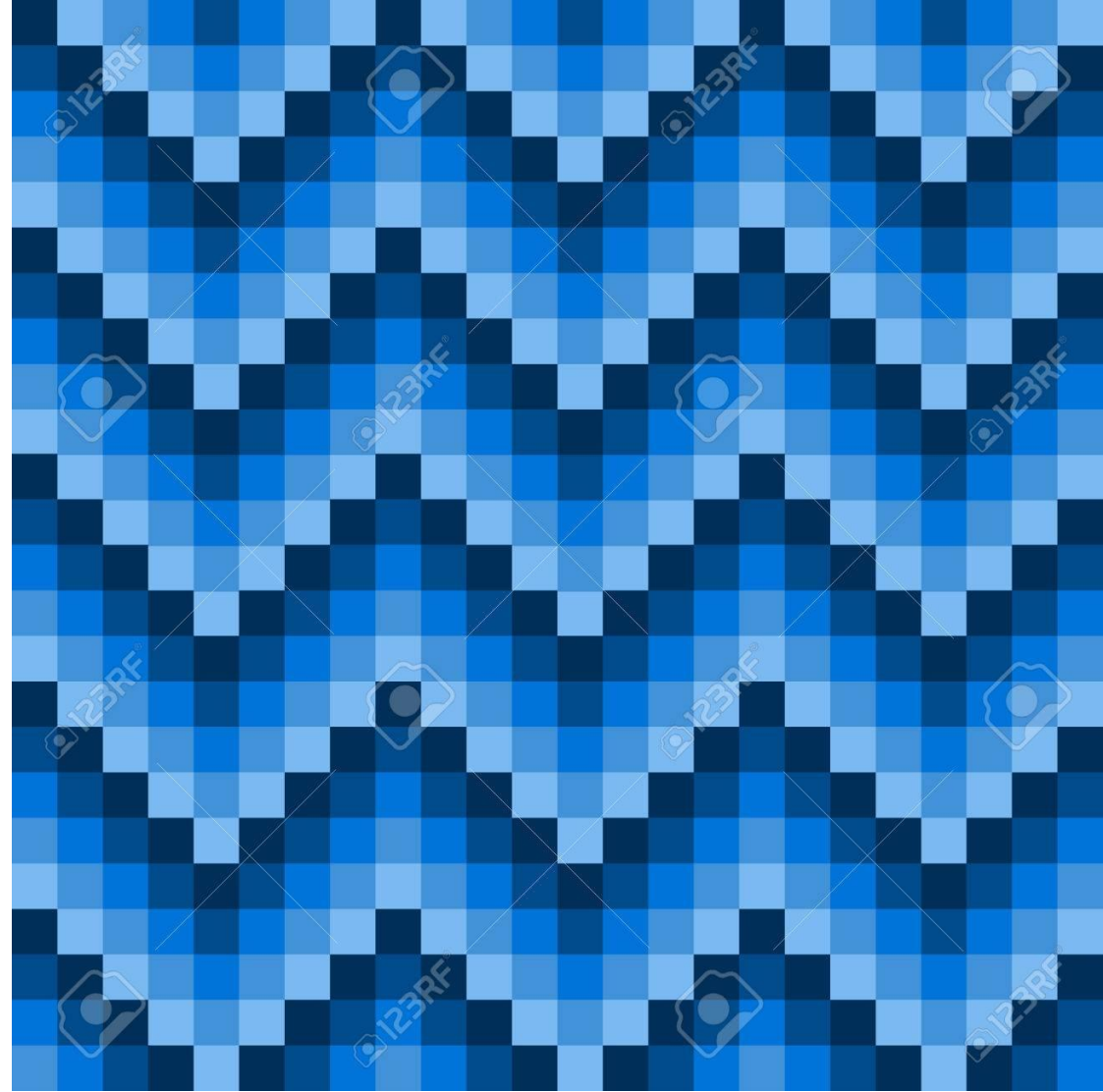


Art Deco Pattern

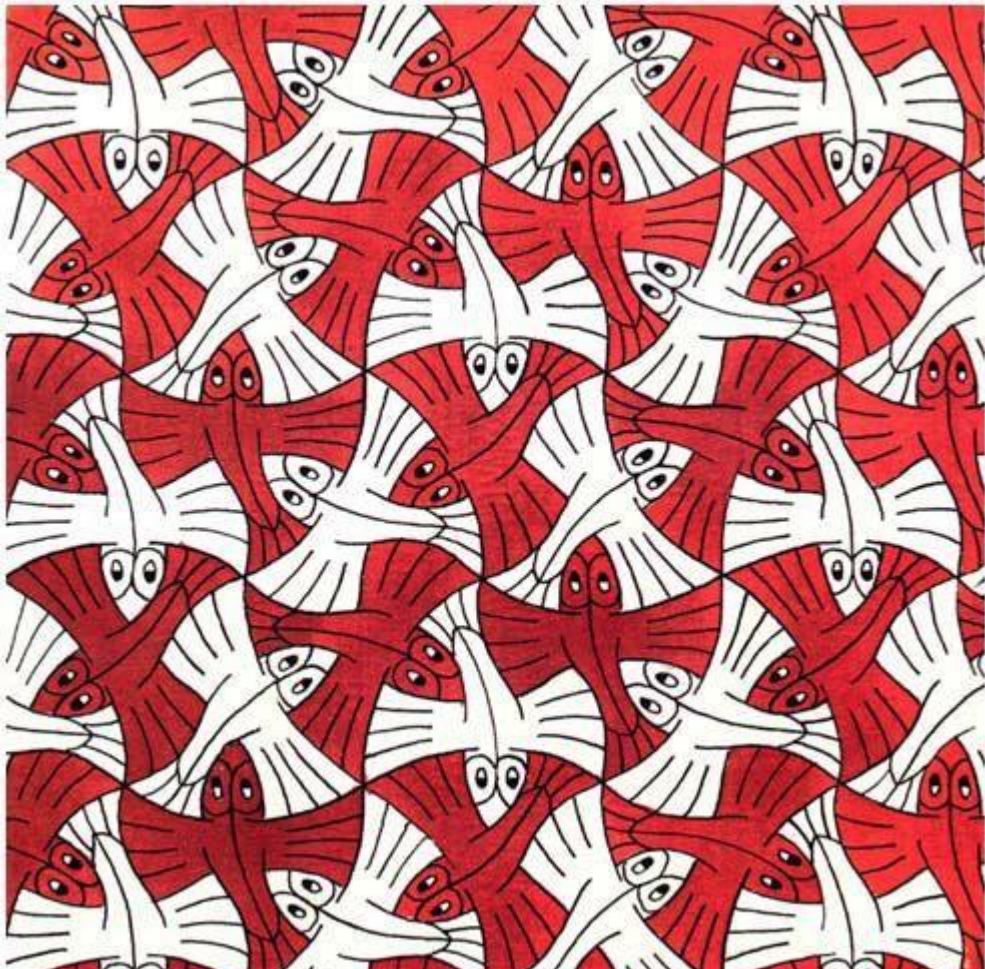


<https://freepreset.net/how-to-create-a-great-gatsby-style-art-deco-pattern.html>

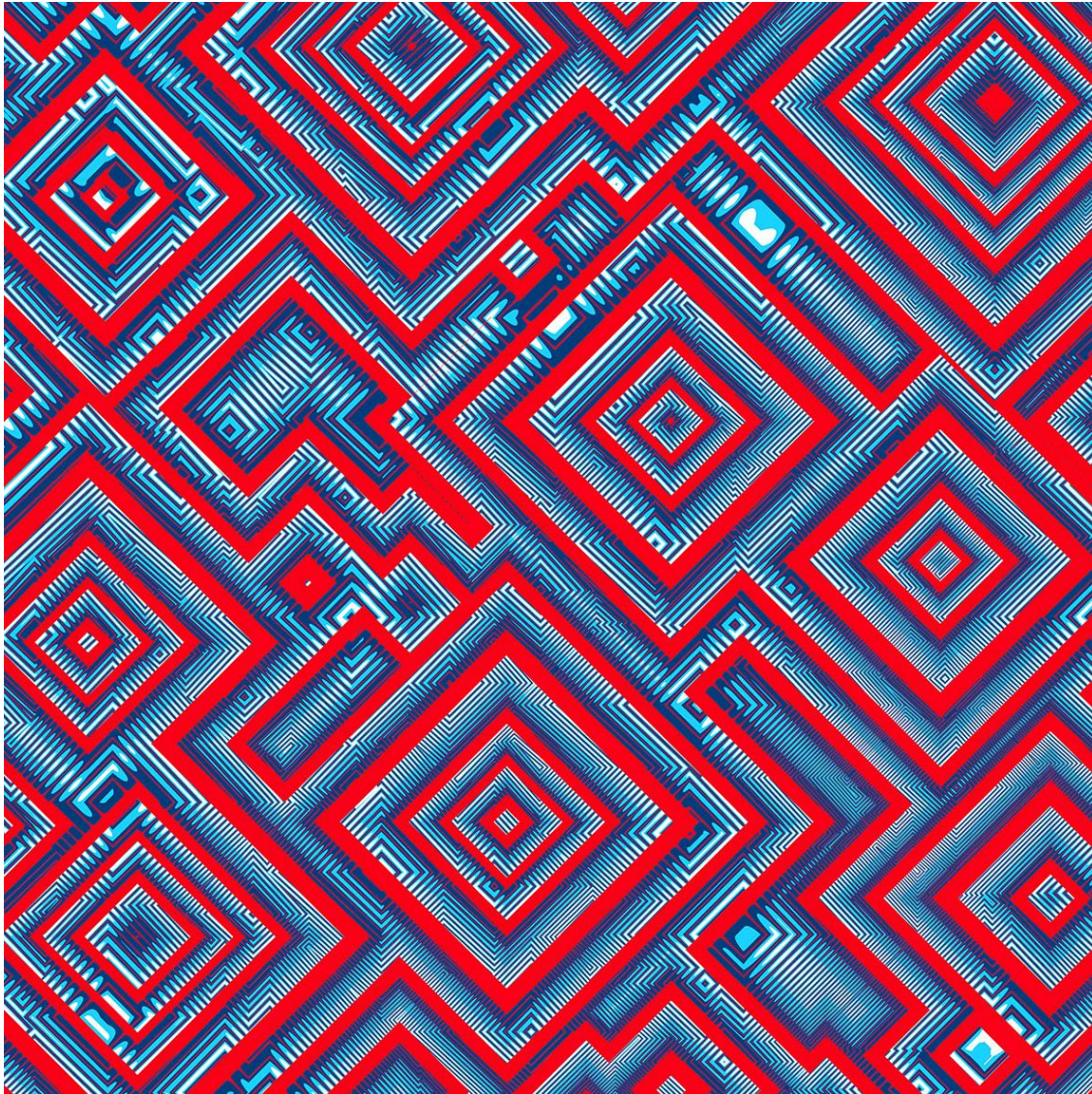
Grid Pattern



M. C. Escher Pattern



Procedurally Generated Pattern



<https://www.behance.net/gallery/93361951/Procedurally-generated-patterns>

<https://openprocessing.org/sketch/90957/>



Let's unleash the beast of creativity now!