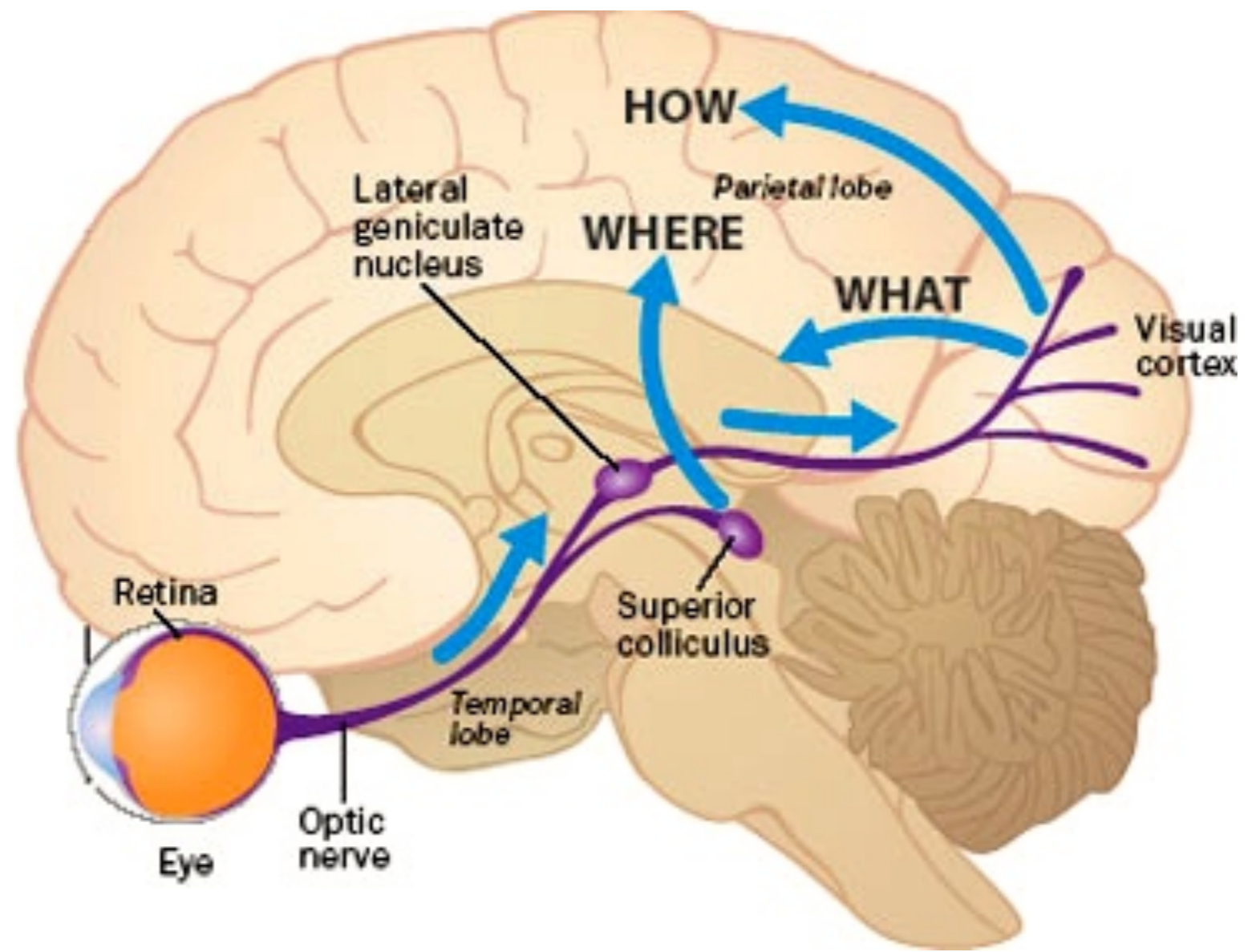
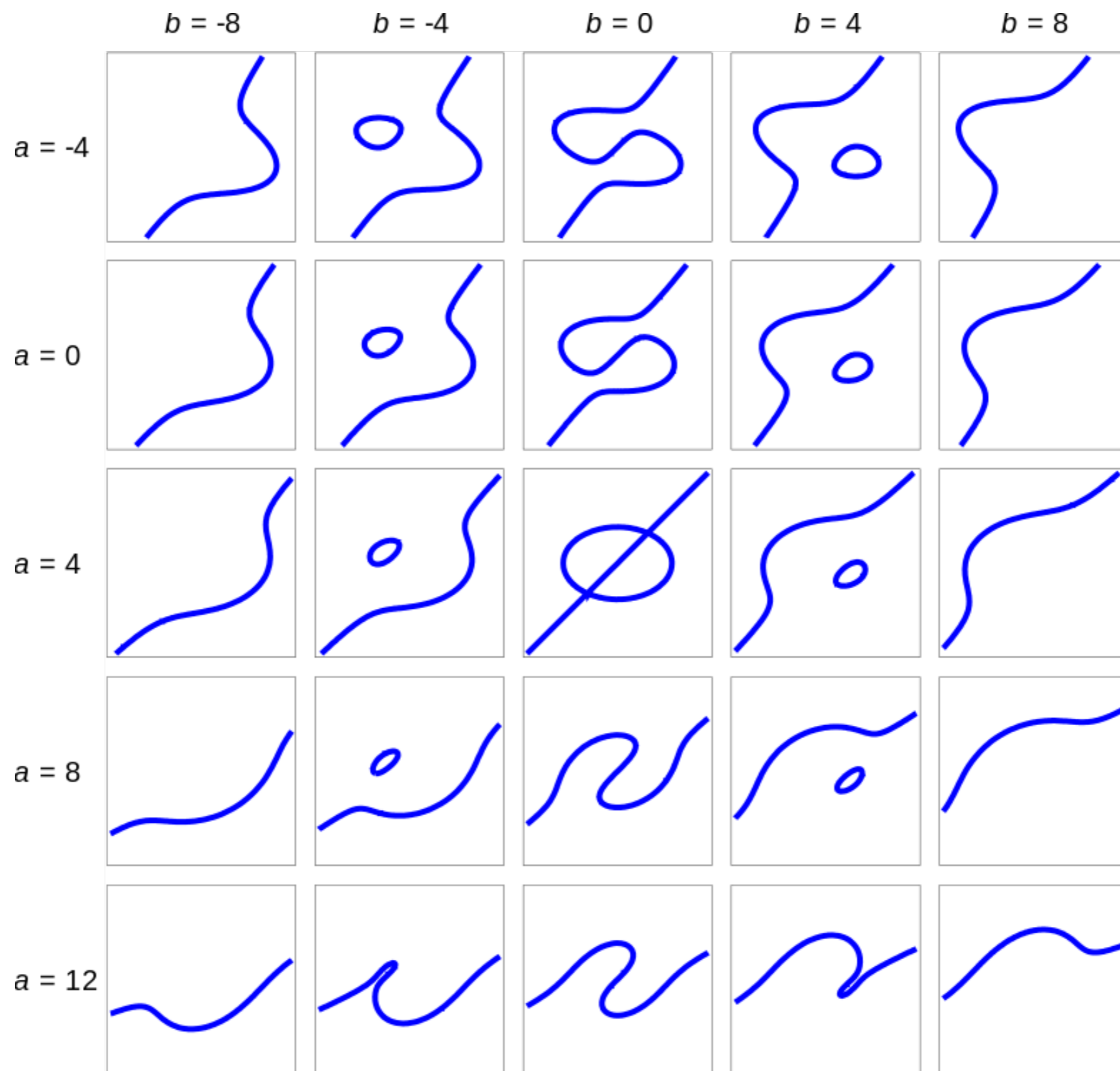


Intersections of Art and Science

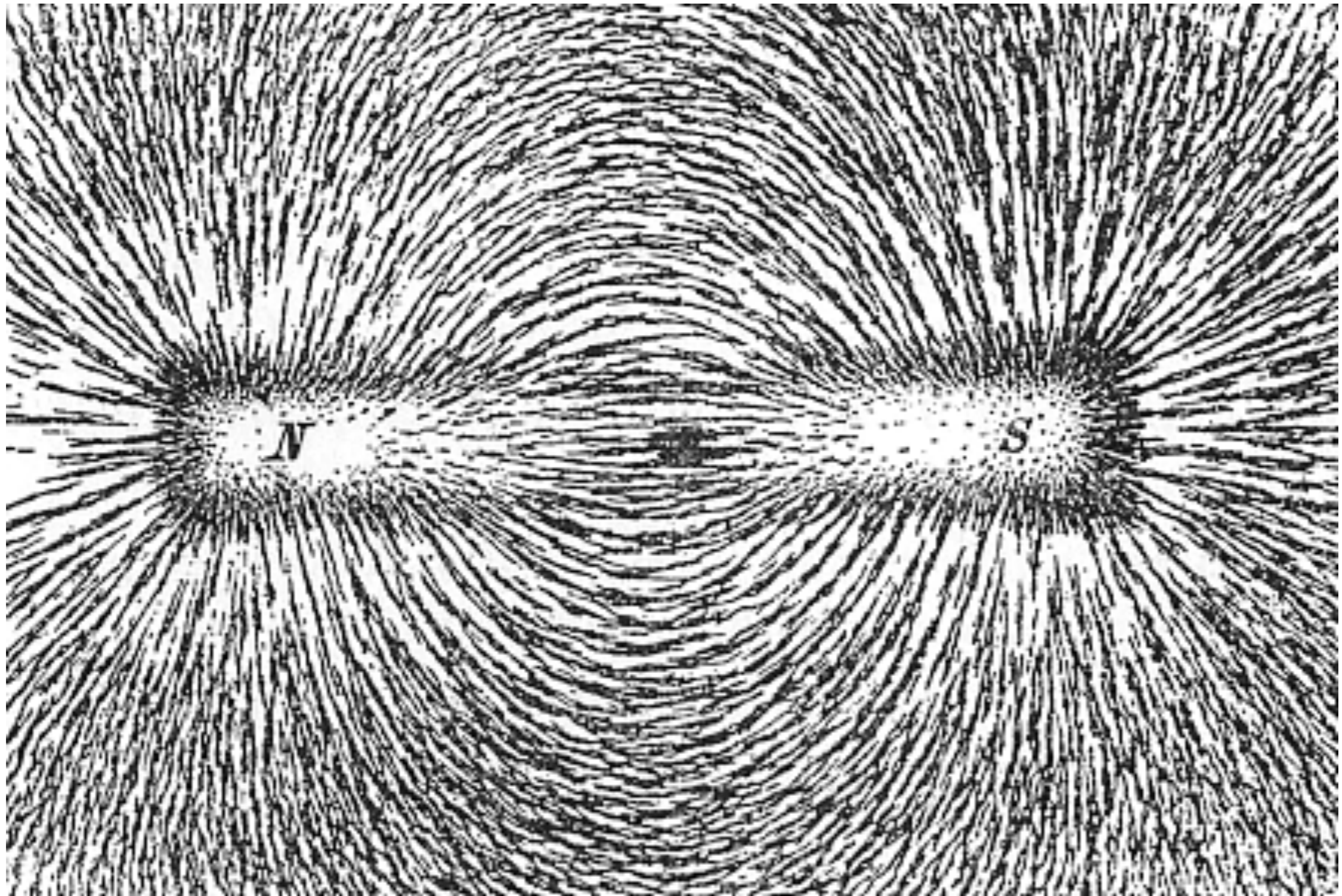
Visualization

Connecting Our Cognitive Organs



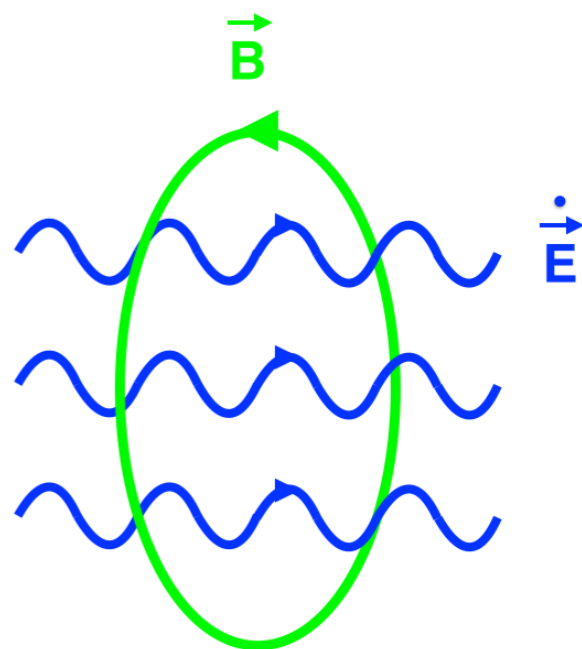
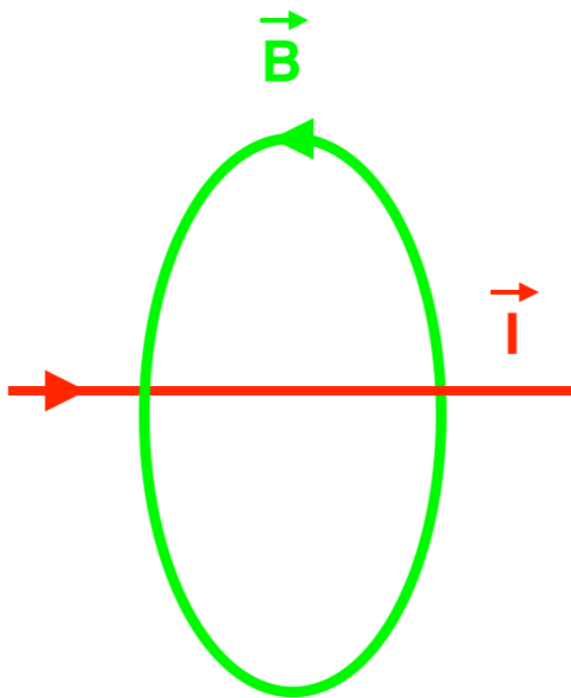
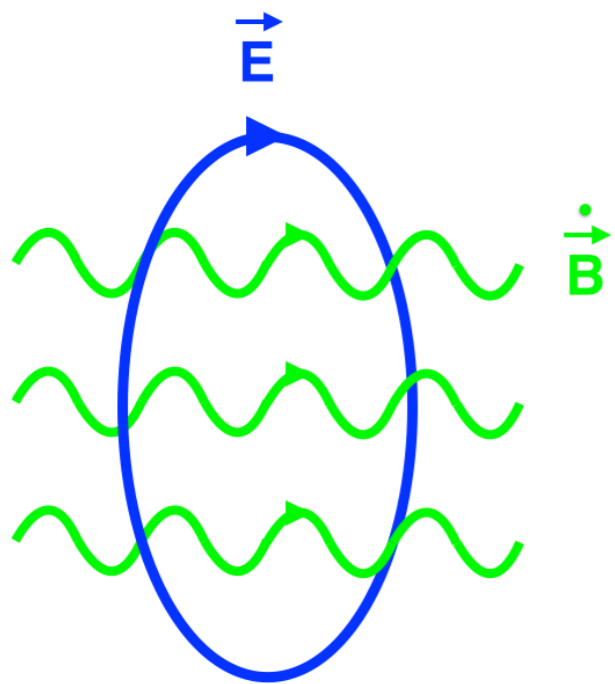
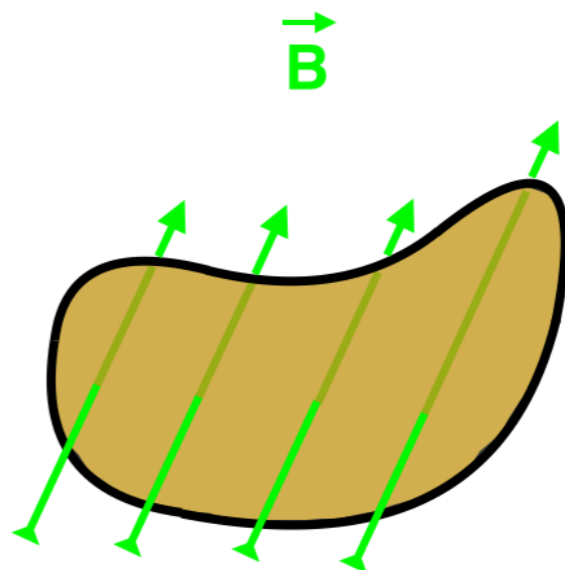
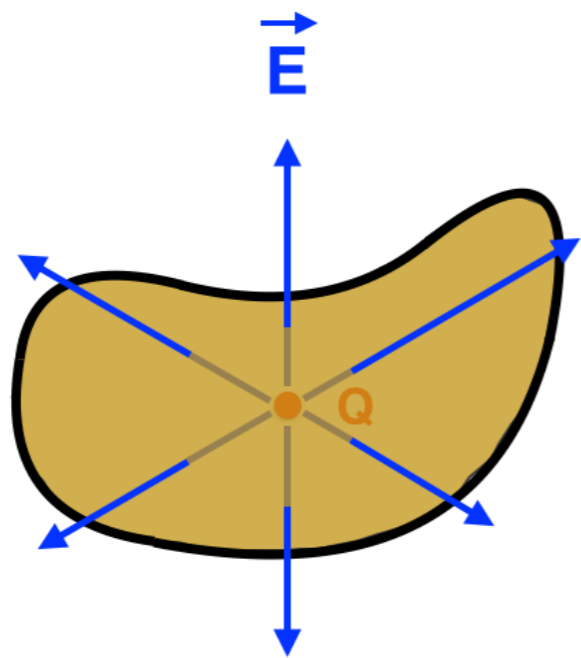


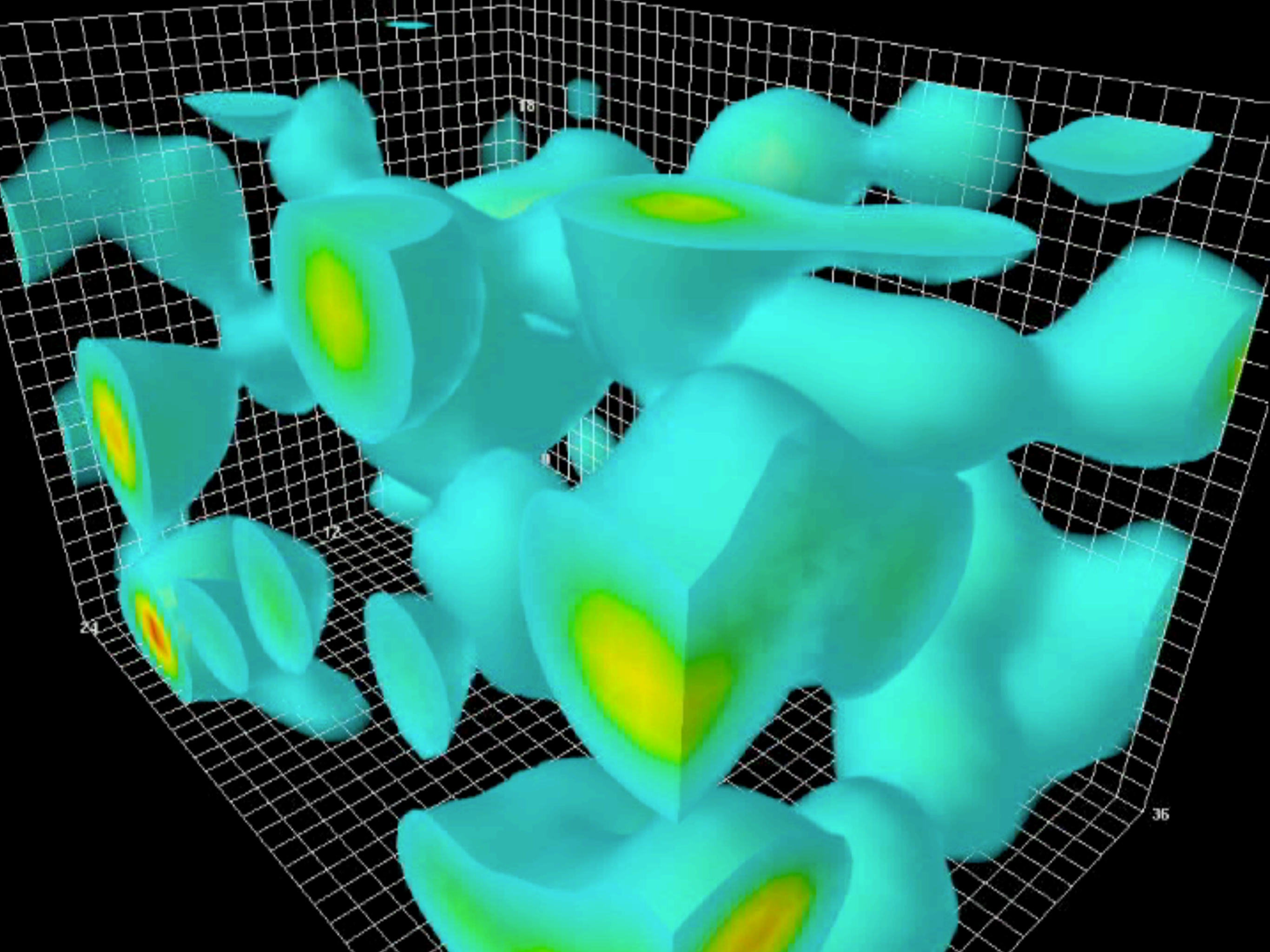
$$4x^3 - ax^2y + 9xy^2 - 9y^3 - 36x + 36y + 10b = 0$$

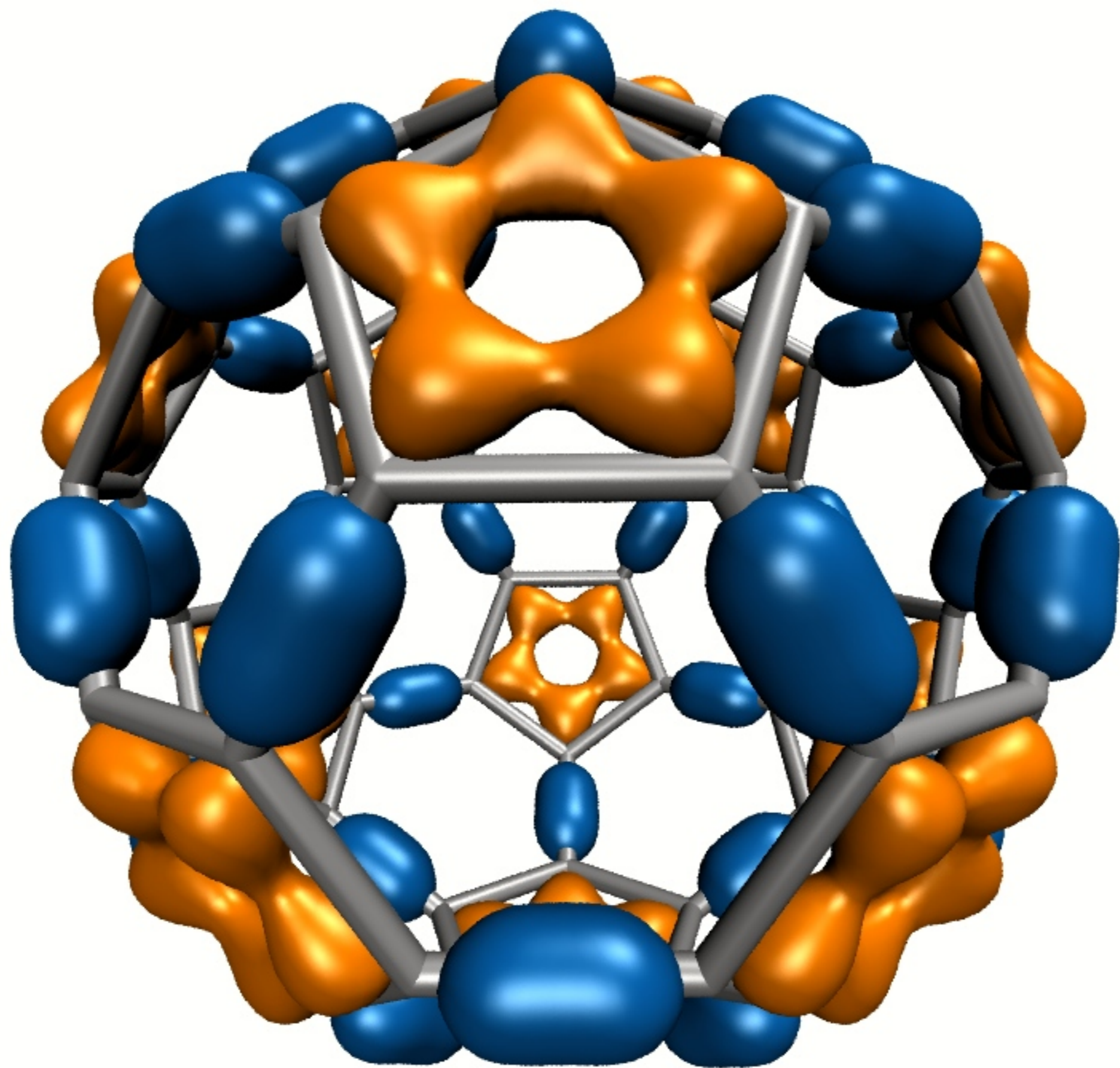


Faraday, in his mind's eye, saw lines of force traversing all space where the mathematicians saw centers of force attracting at a distance; Faraday saw a medium where they saw nothing but distance.

James Clerk Maxwell



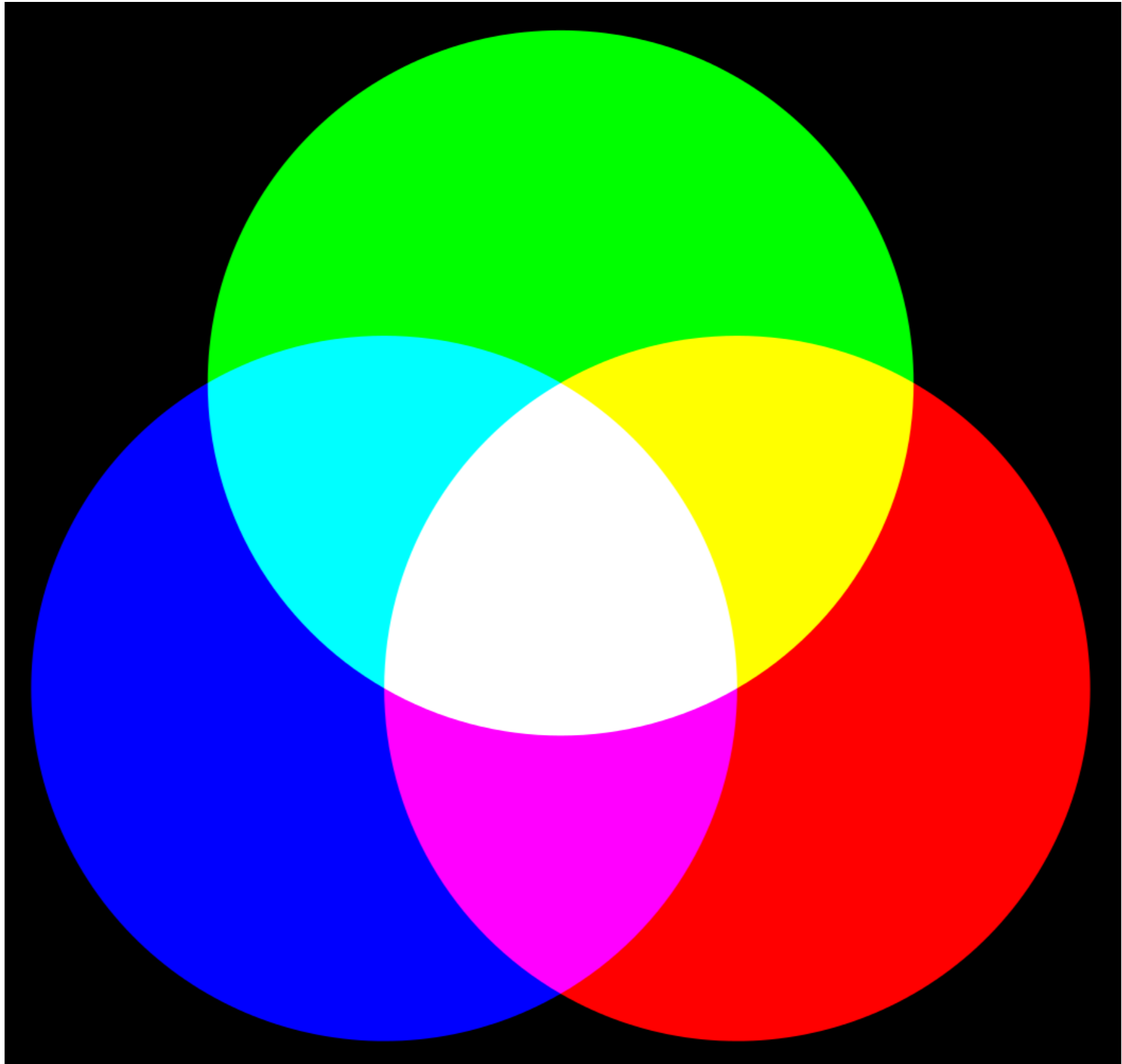




Color: Physical and Perceived

Trichromacy

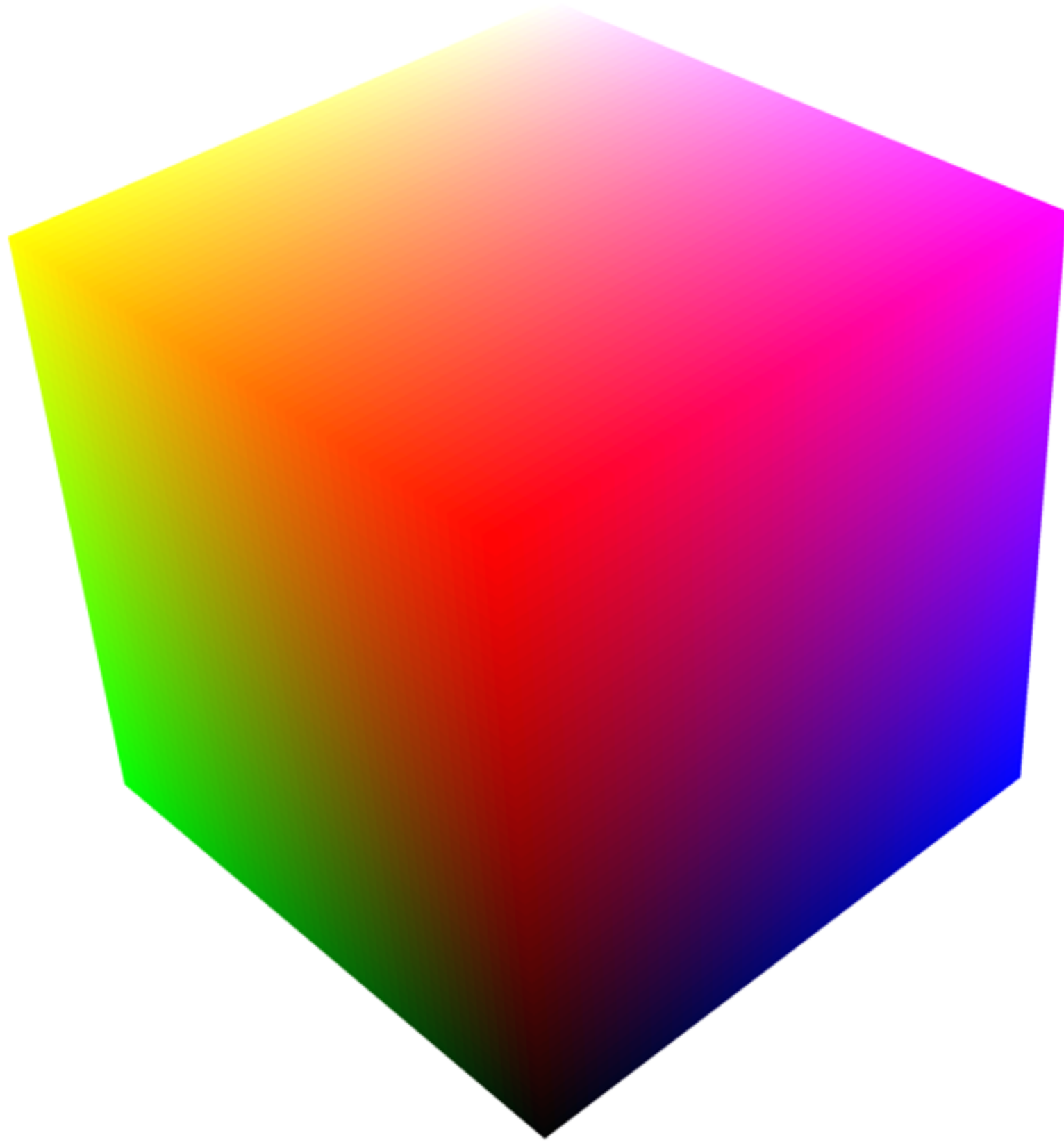


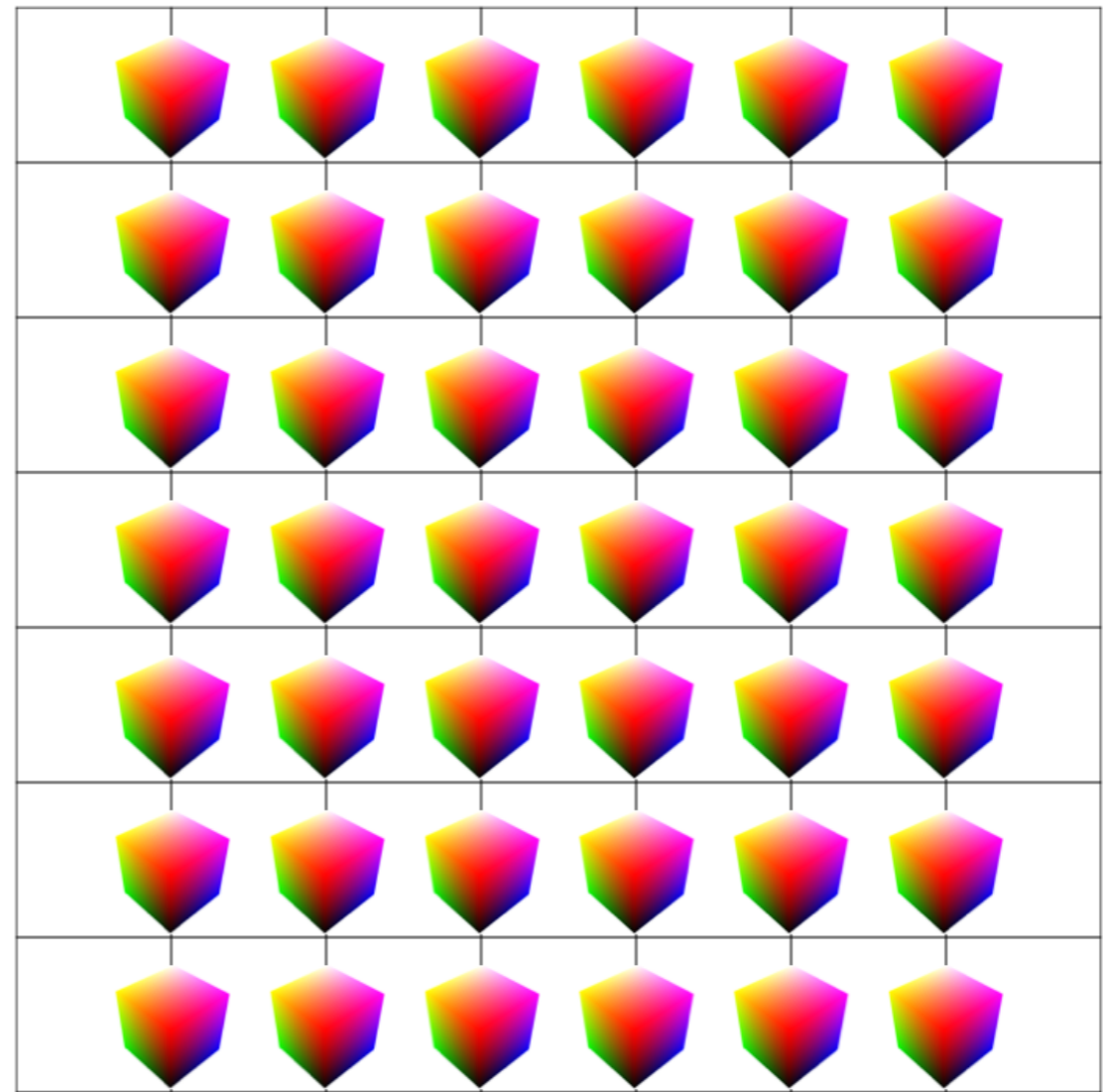
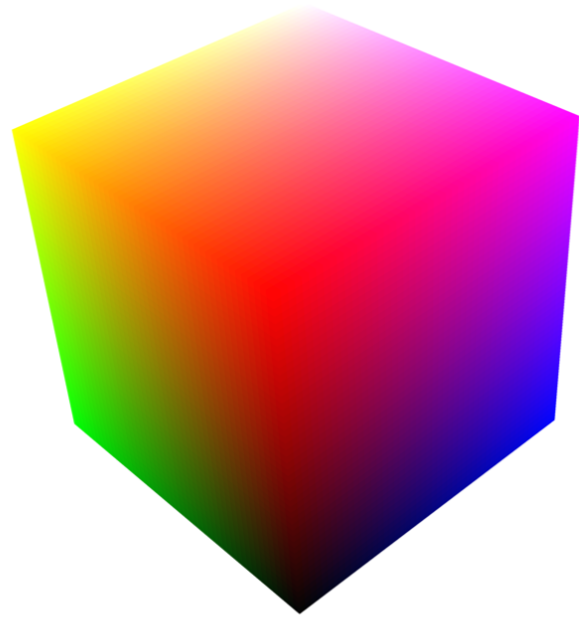




Color Space, Color Space-Time

Dimension and Symmetry



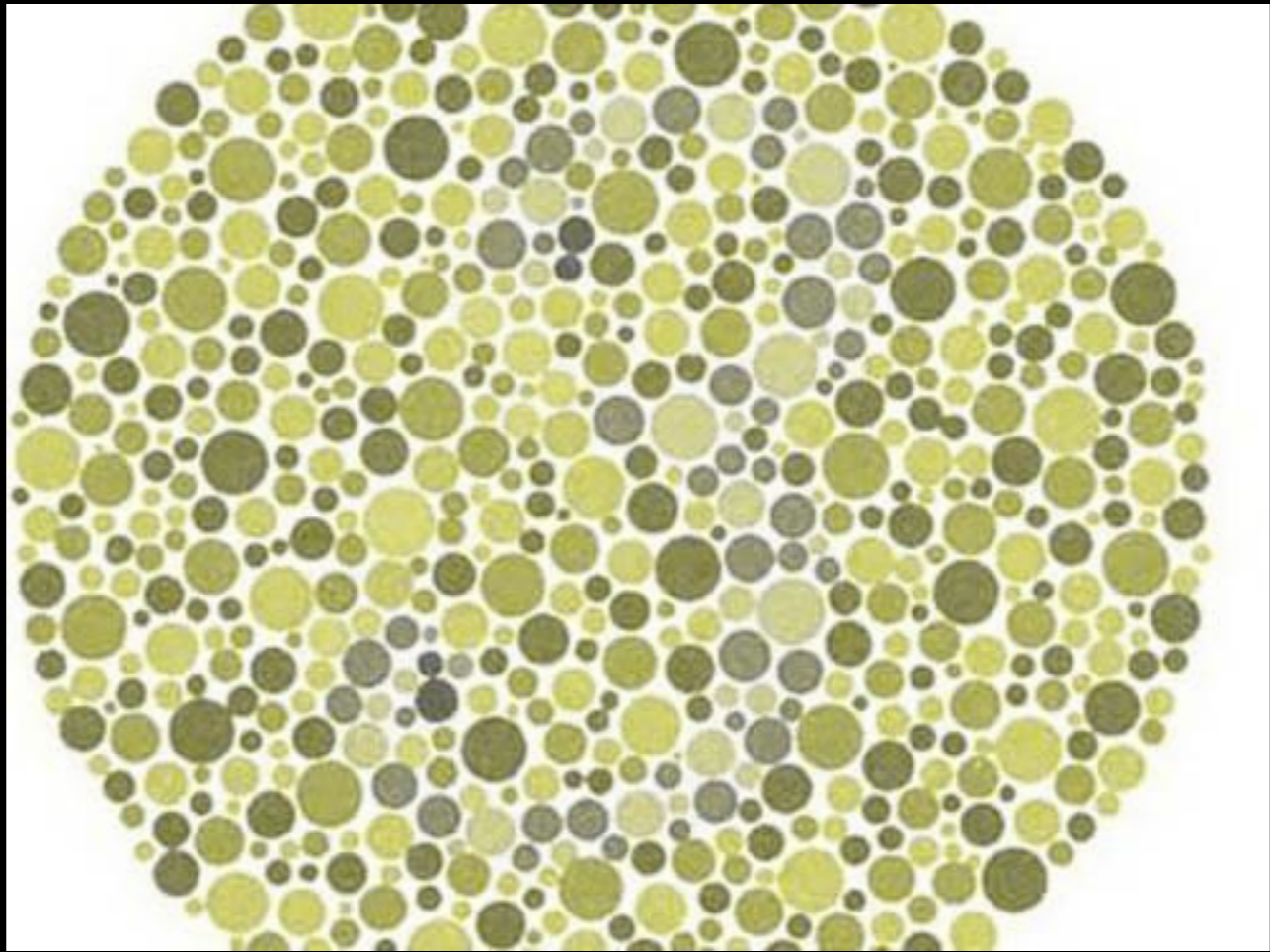
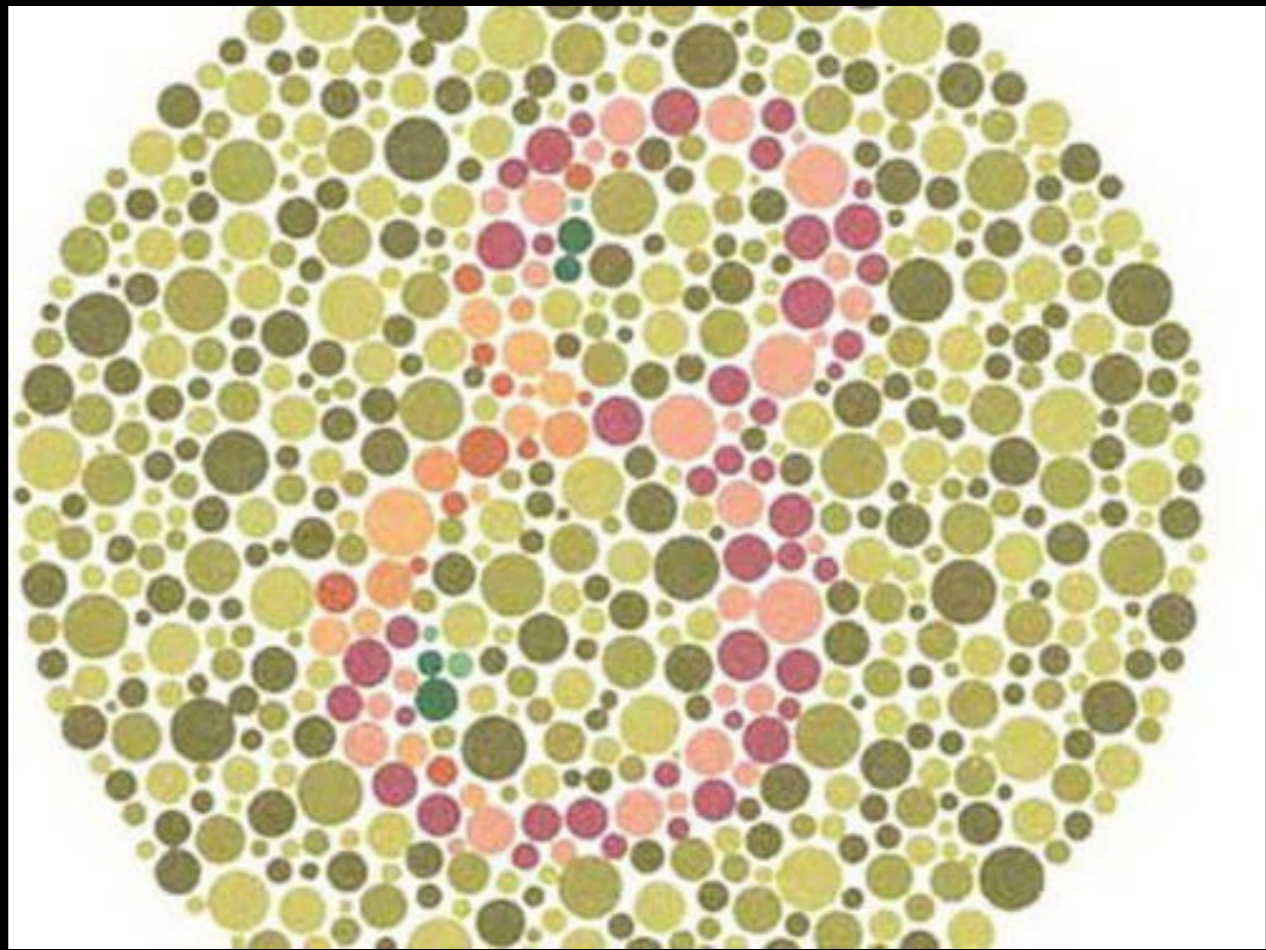


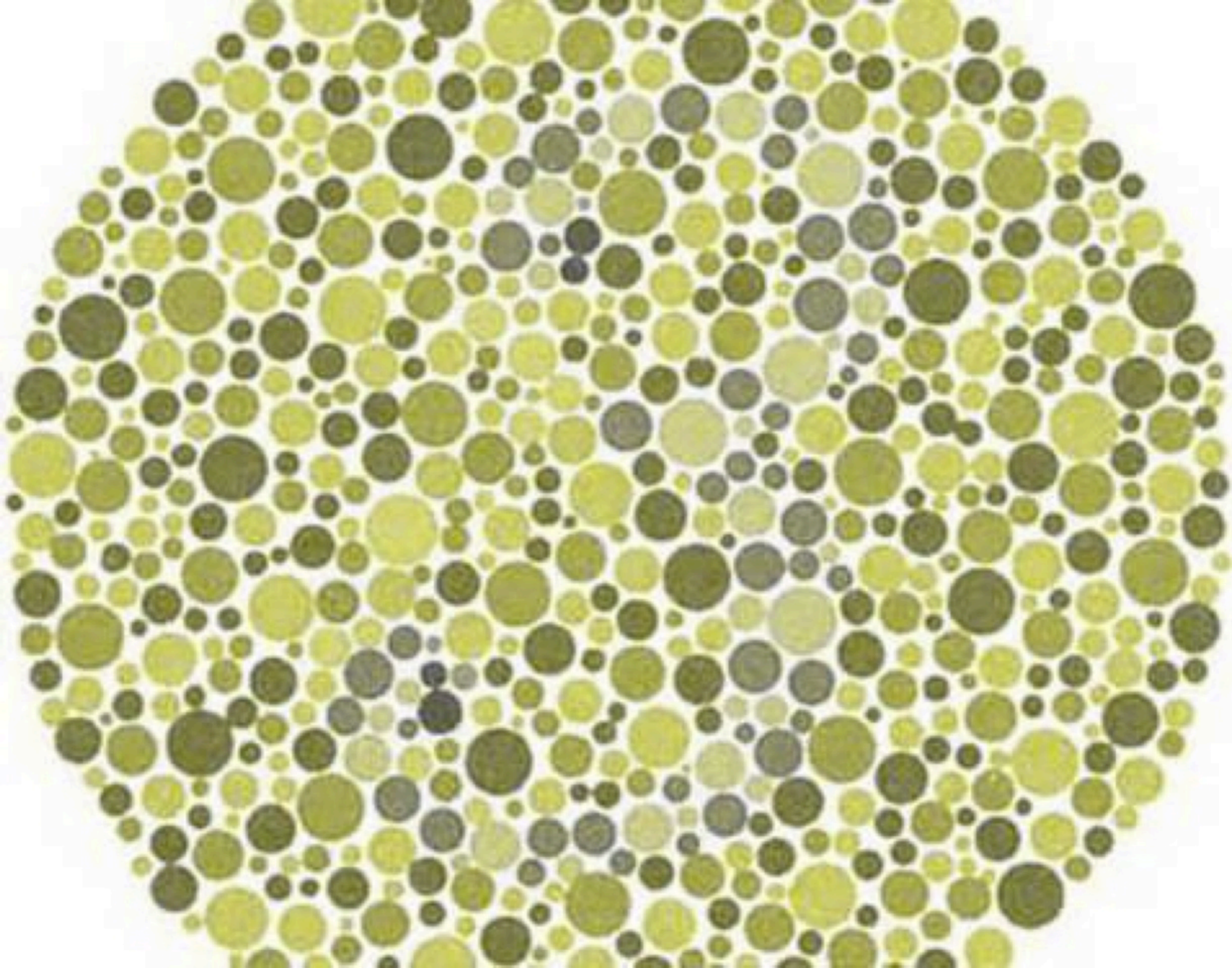
(t, x, y, r, g, b)



local color symmetry







Visualization in many dimensions is an important scientific frontier ...

and an artistic opportunity.

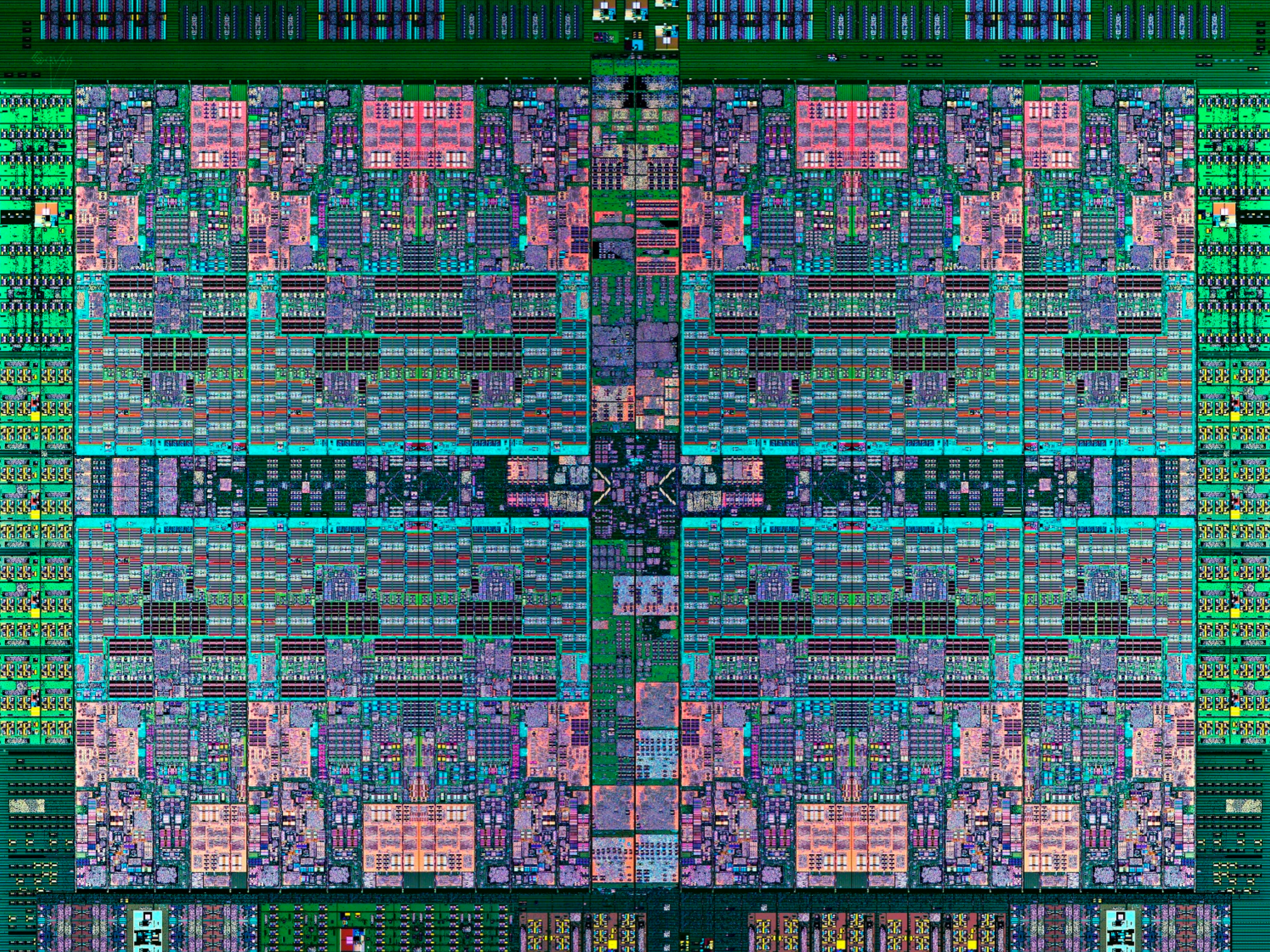
Symmetry and Exuberance

Pattern and Freedom

“Change without Change”



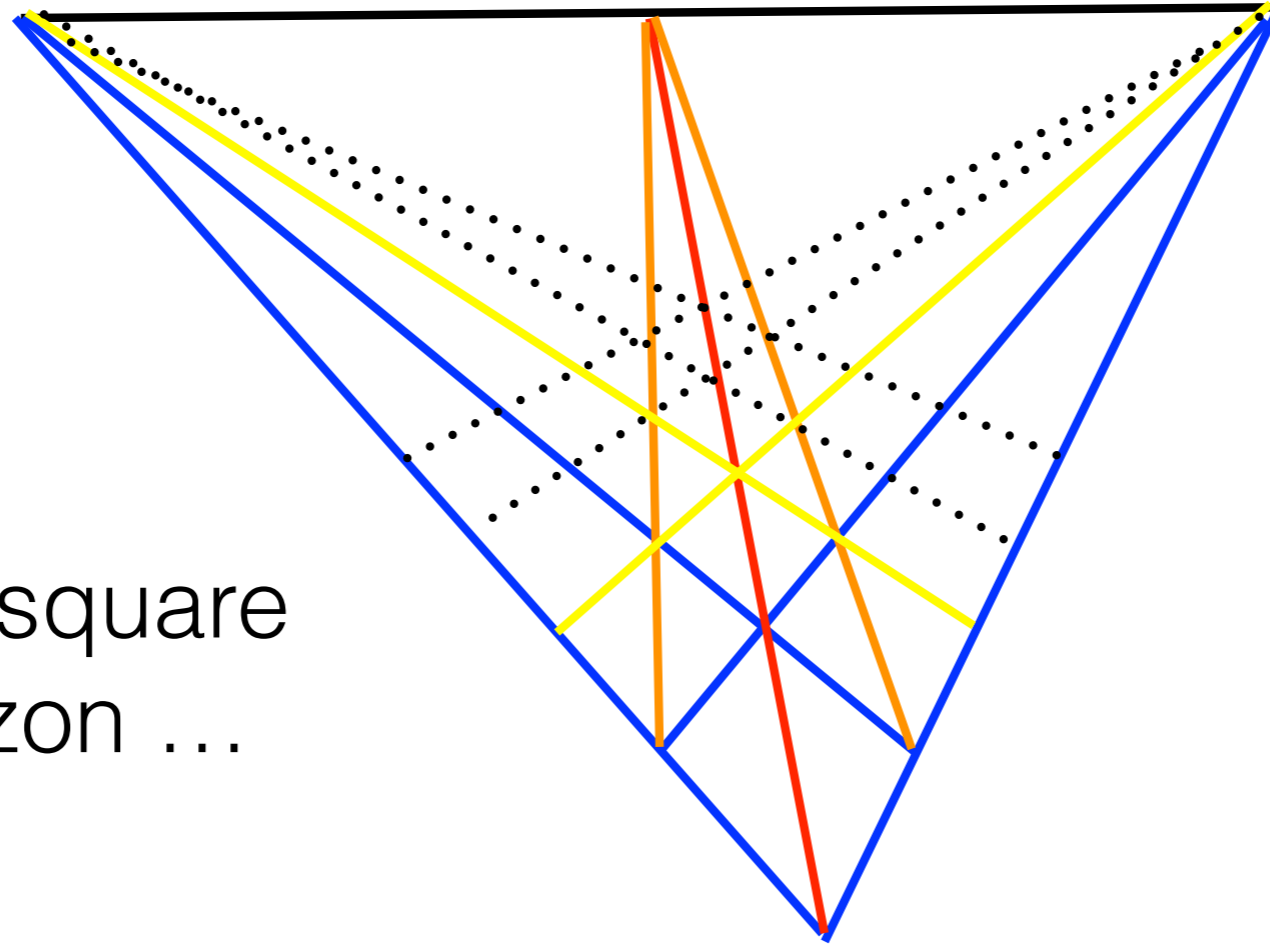




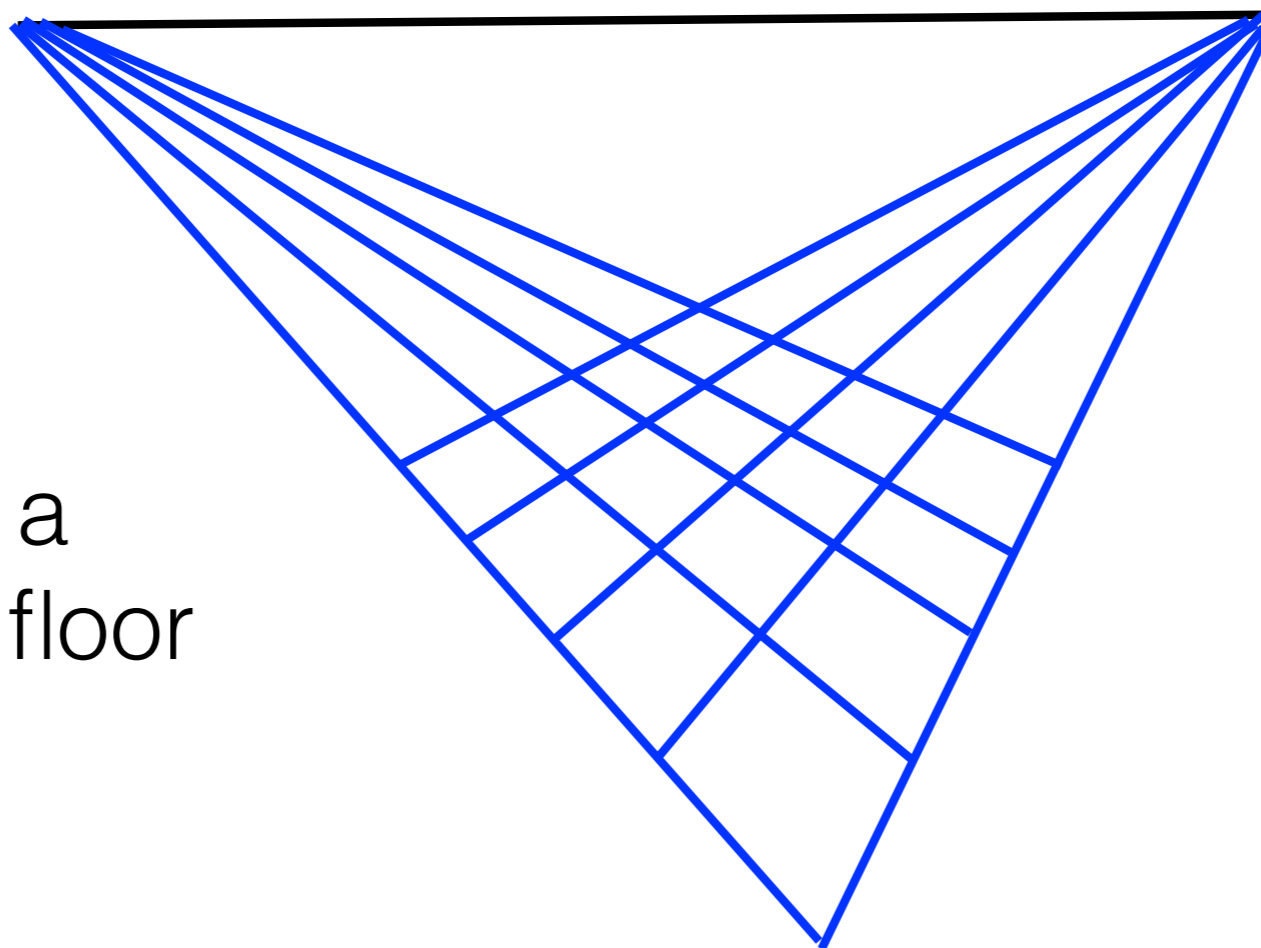
Perspective: art & science of how to change the vantage point, and the image, without changing - that is, distorting - the scene

subjectivity, treated objectively

start with a square
and a horizon ...



... create a
square-tiled floor





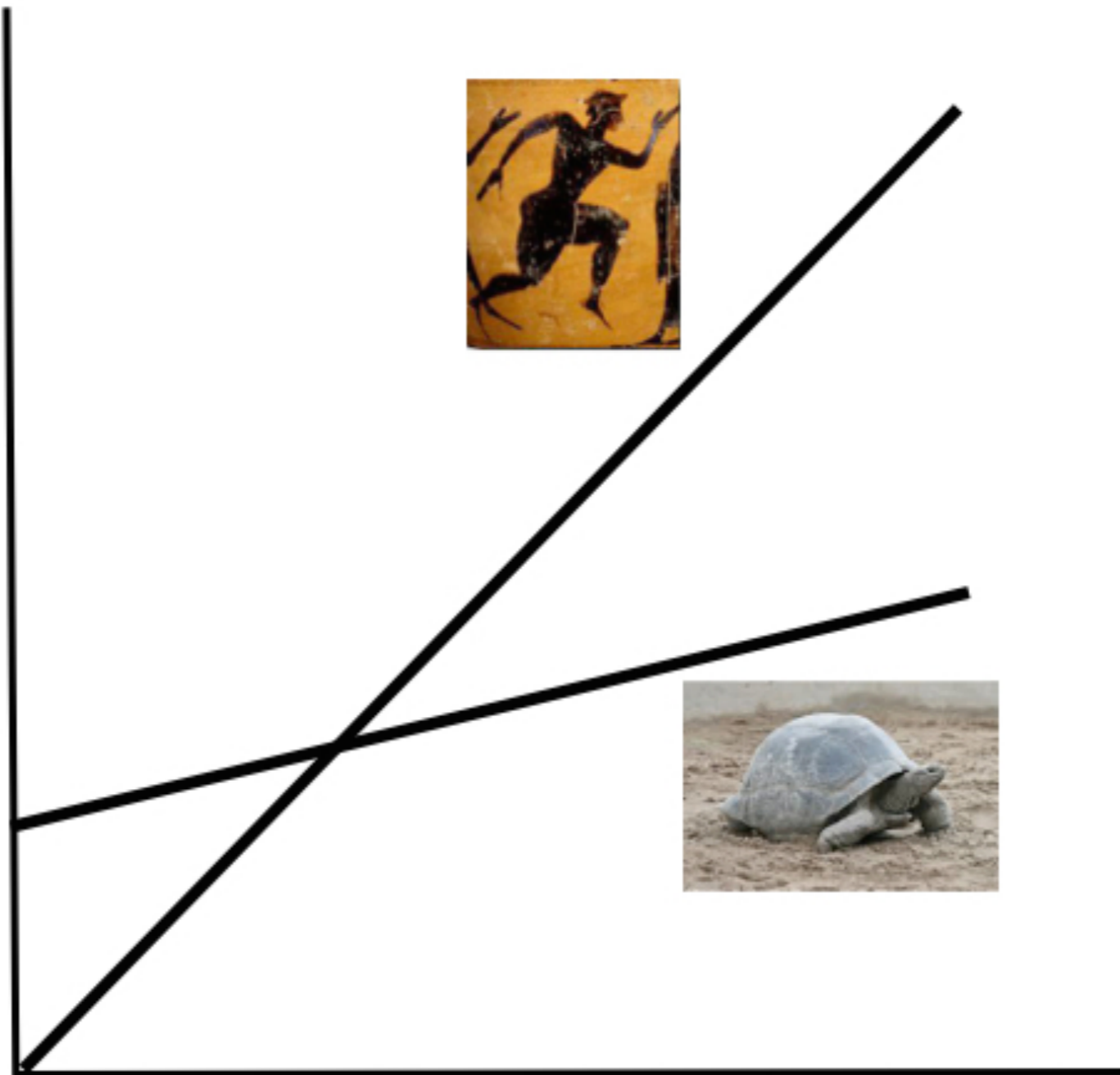
IMENSUM SACRAMENTUM
HOC QUARTUM
SACRAMENTUM

SICUTI OPTIMUM
DISPAR
RELIGIONEM
PRIOR

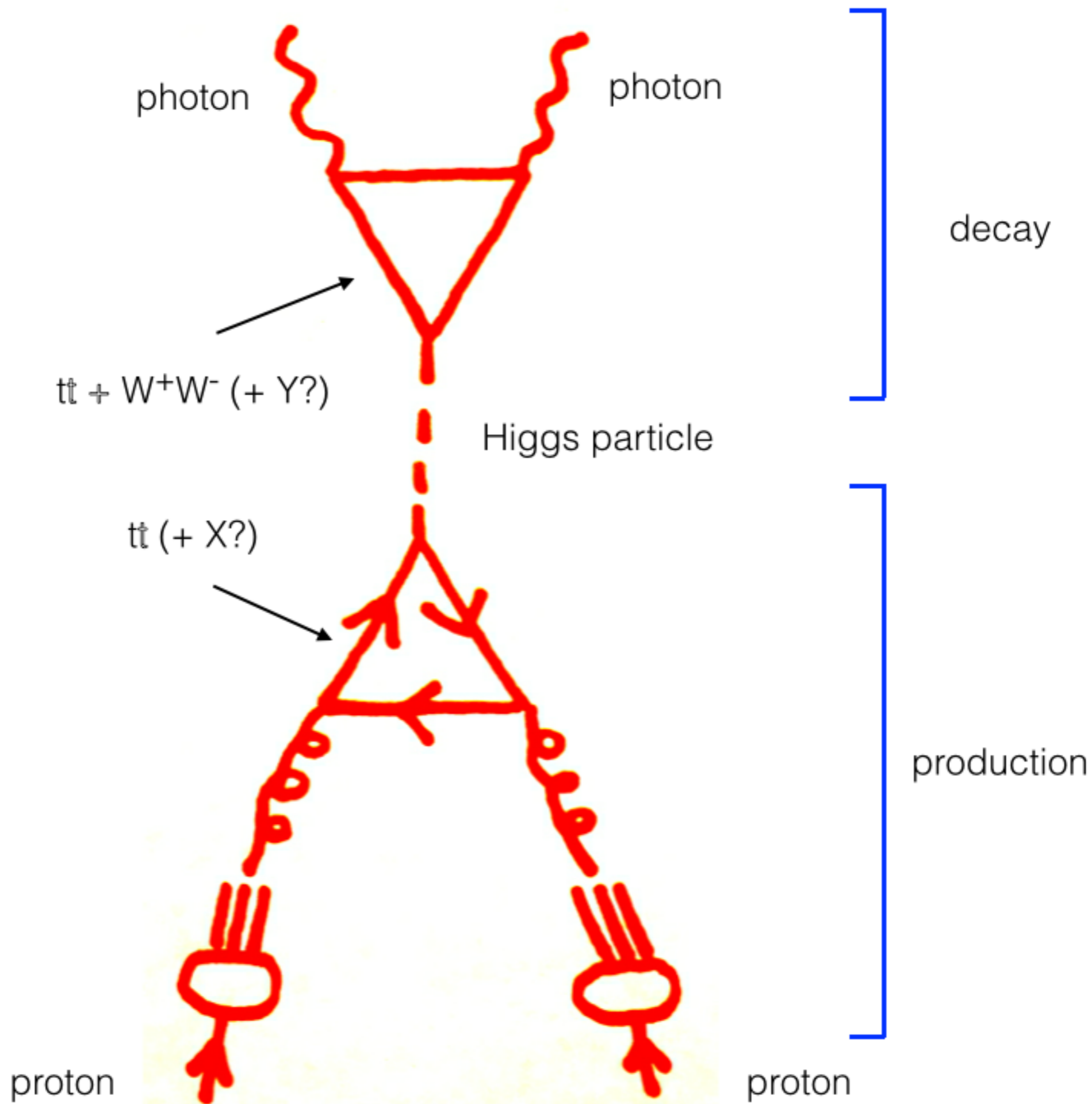
Turning Time Into Space

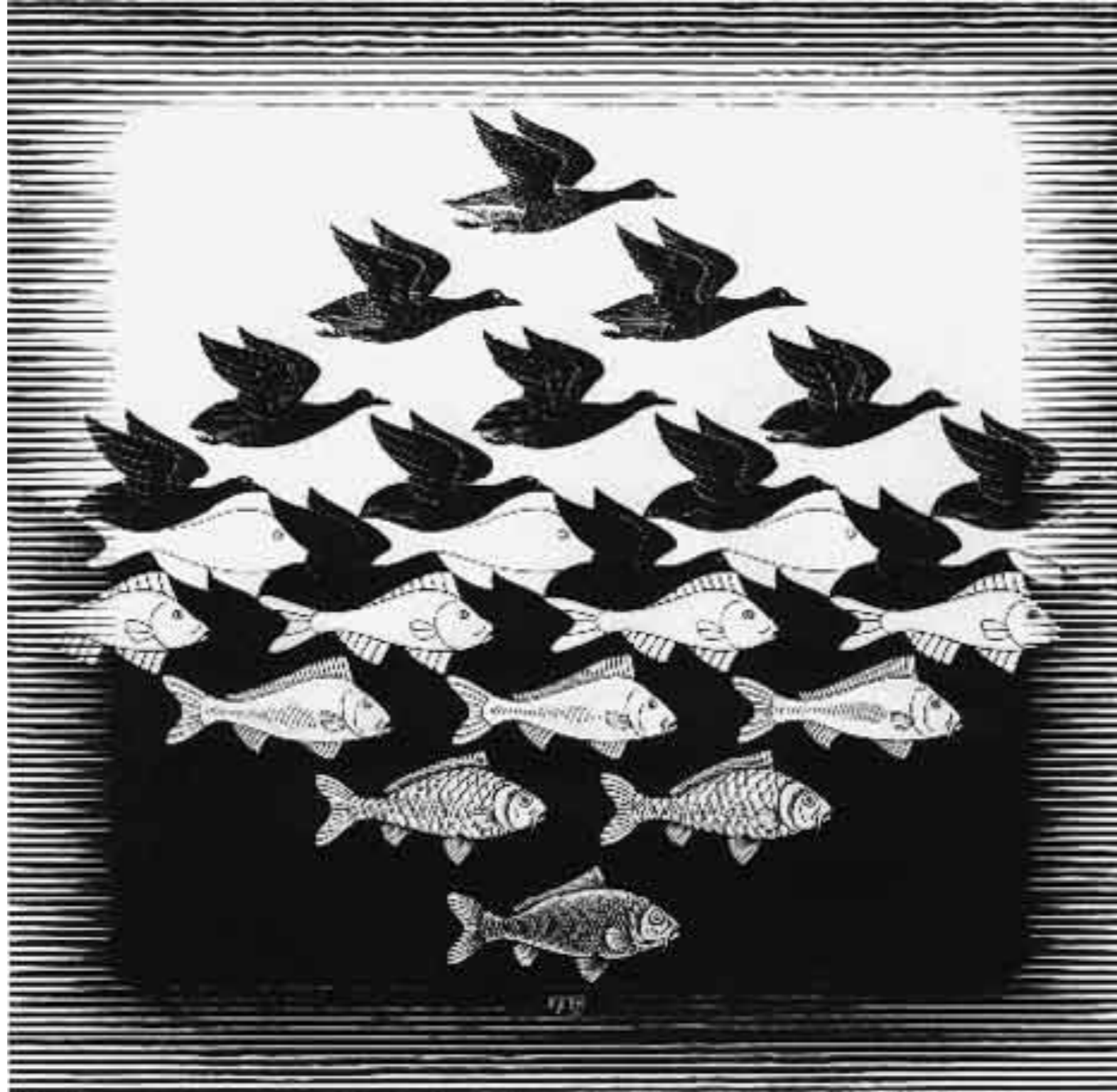
Images That Tell Stories

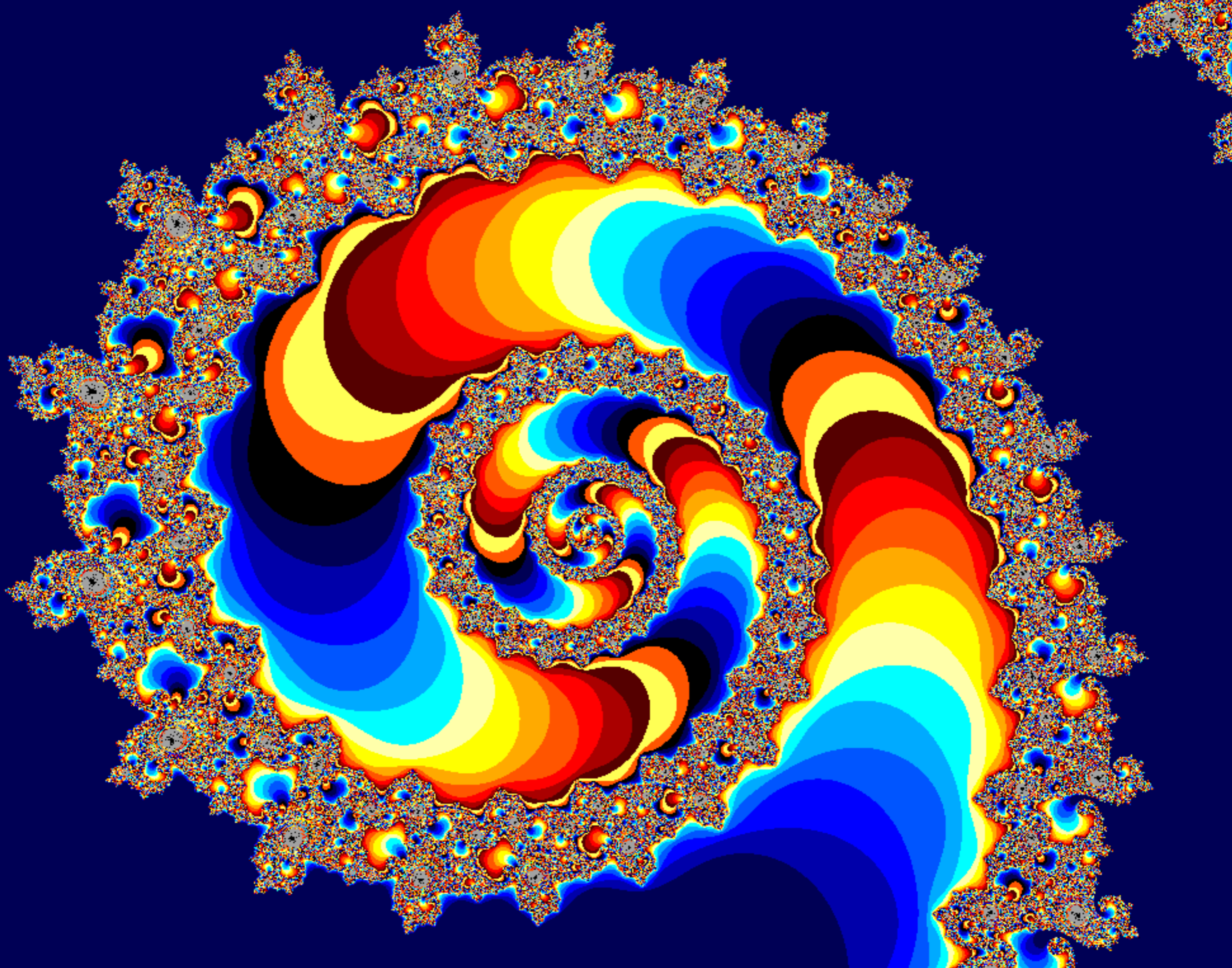
distance



time







[planning slides follow]

- achilles and the tortoise
- Feynman diagrams
- morphing (Escher)
- Maxwell equations

- brain modules
- analytic and algebraic geometry
- Maxwell equations
- QCD vacuum
- chemistry example

- al Hambra
- mosque interior
- mosaic (palermo)
- mosaic (MIT)

- color top
- mixing of beams
- color top in space (impressionism; pointillism)

- color cube
- color and extra dimensions
- color “perspectives”
- dynamic color
- opening new channels