

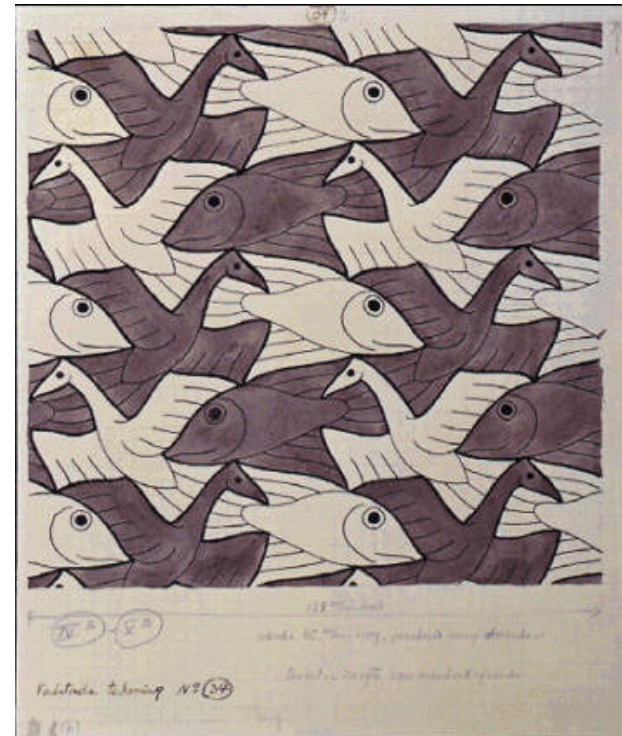
Symmetries

Escher Patterns

2D

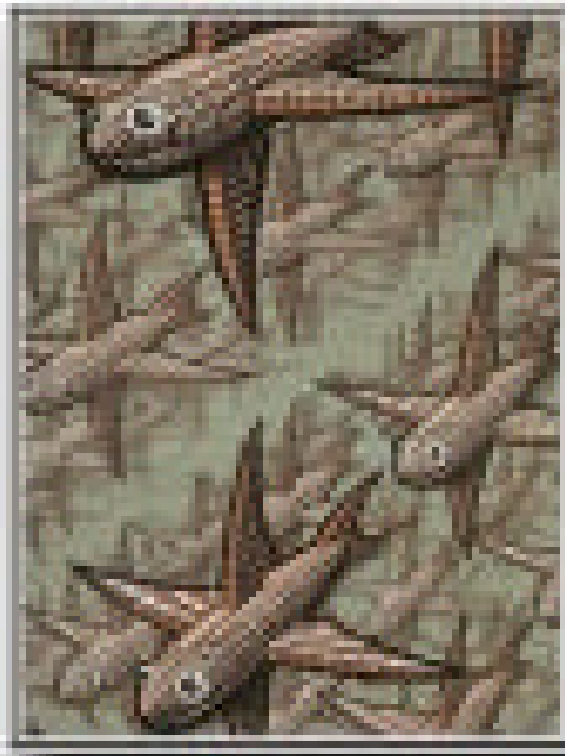


Binary

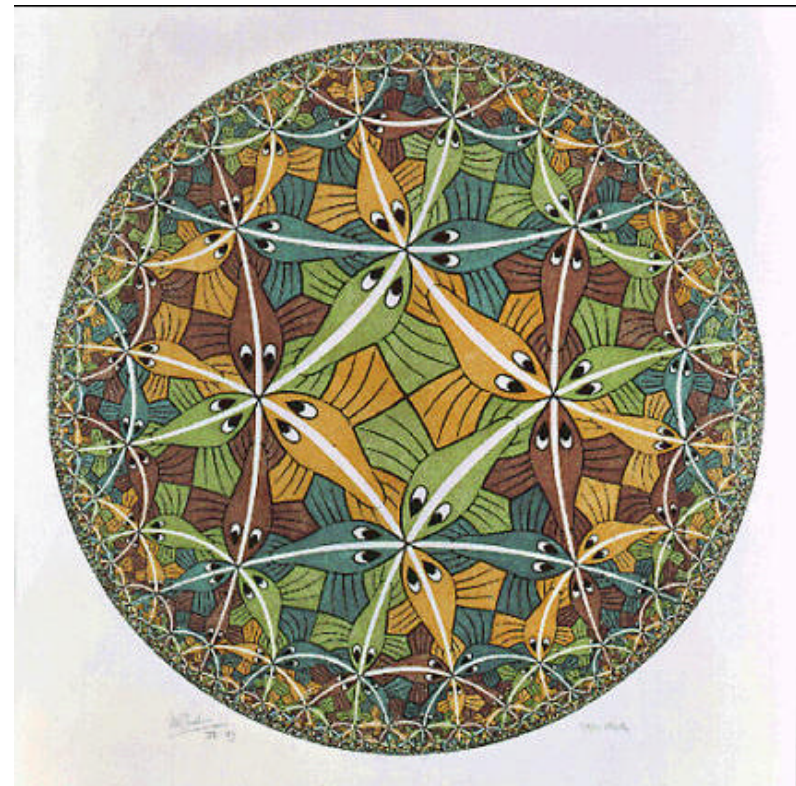


Symmetries

3D

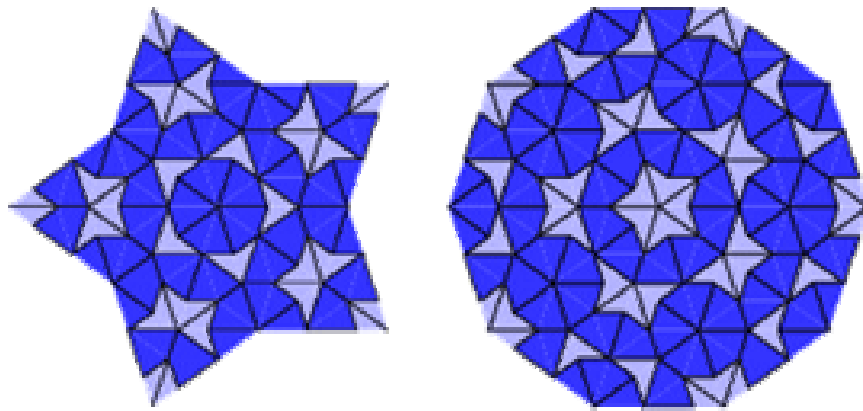


Rotational

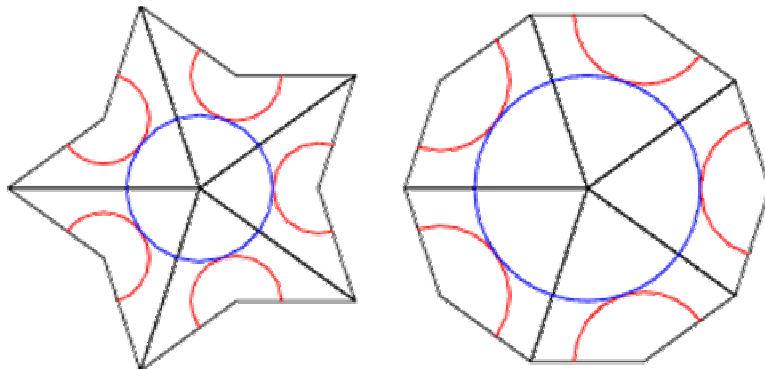


M. Escher

Quasicrystals



Penrose Tiles

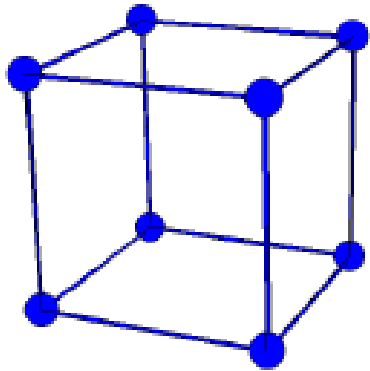


Rotational Symmetry

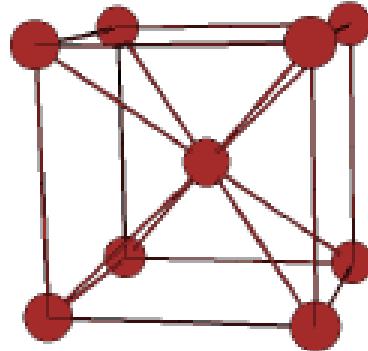
Aperiodic Structure

<http://mathworld.wolfram.com/PenroseTiles.html>

Crystal Structures



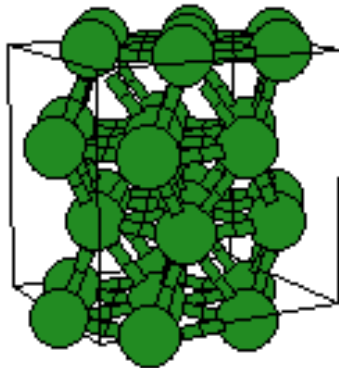
SC



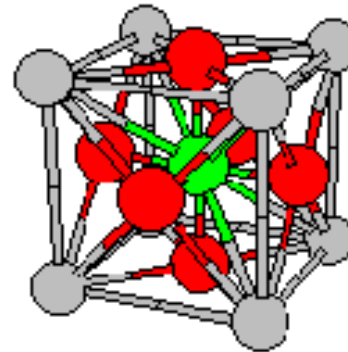
BCC



FCC



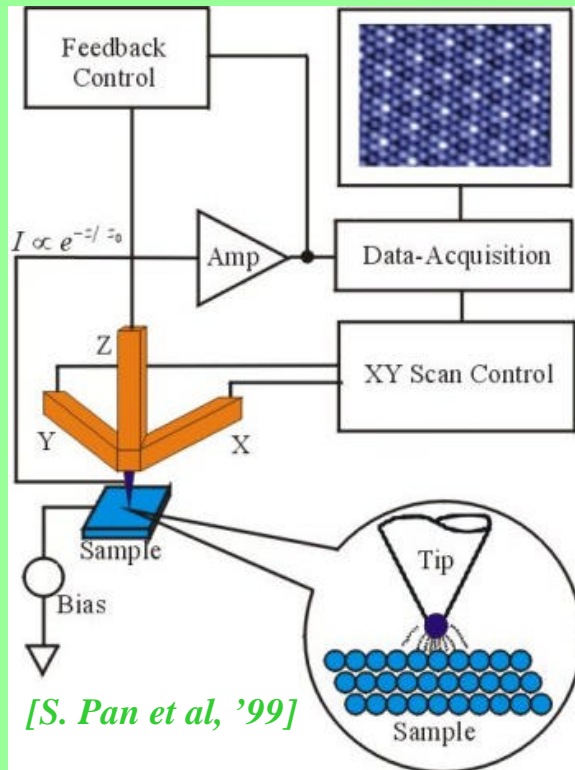
HCP



ABX_3

<http://cst-www.nrl.navy.mil/lattice/>

Scanning Tunneling Microscope



Spatially-resolved tunneling spectroscopy => information on electronic structure *vs.* temperature, magnetic field & chemical doping.

Other Scanning Probe Microscopes

- Atomic Force (AFM)
- Magnetic Force (MFM)
- Near-field Optical (NSOM)
- Magnetic Resonance Force (MRFM)
- Scanning SQUID (SSM)

STM Topography

