



A single perspective or projection obscures the true nature of things.
How little we can tell from the mere shadow of reality.

[Plato - Allegory of the cave](#)

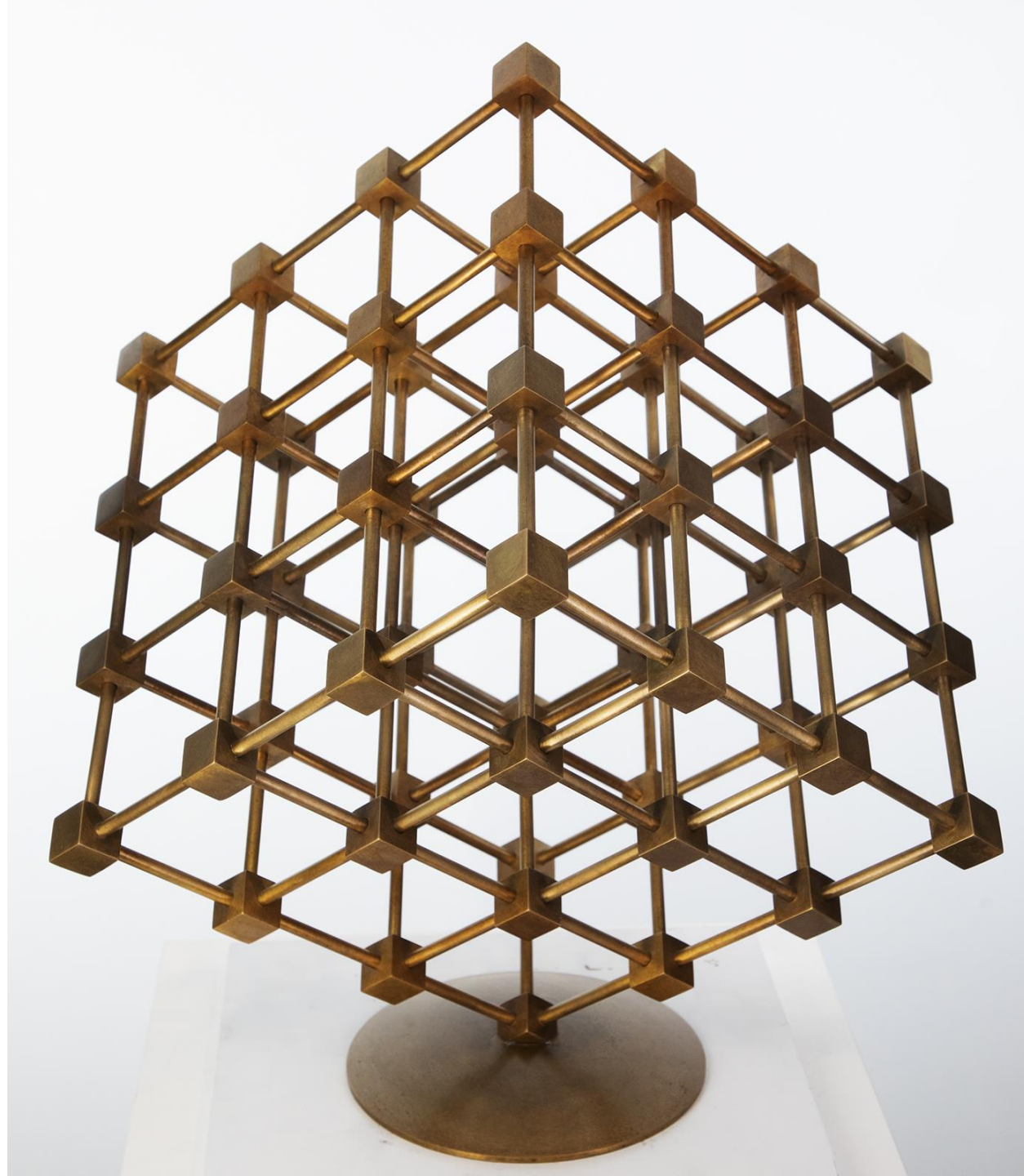
Lattice path sculptures

The beauty of symmetry and importance of perspectives





Simple Cubic lattice



Simple Cubic lattice



Lattice paths

- Lattice types include:
 - Simple Cubic SC with 6 directions
 - Body Centered Cubic BCC with 8 directions
 - Face Centered Cubic FCC with 12 directions
- Closed paths
- Non-self intersecting
- Efficient searches with a path expression language

Path classifications

Path classifications

- Polylinear
- Curved
- Knotted
- Spiral
- ***Optical illusions***
- Linked

Polylinear path



Polylinear path



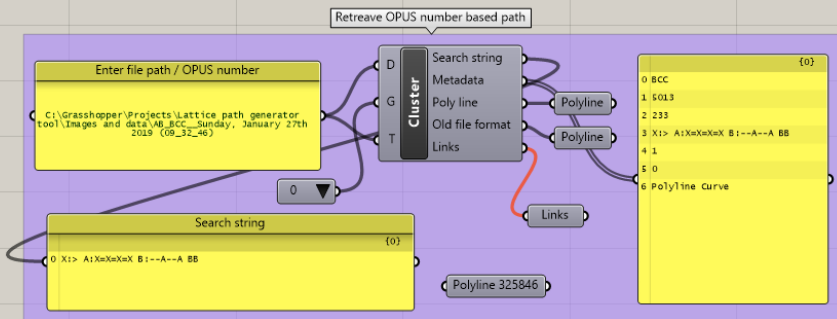
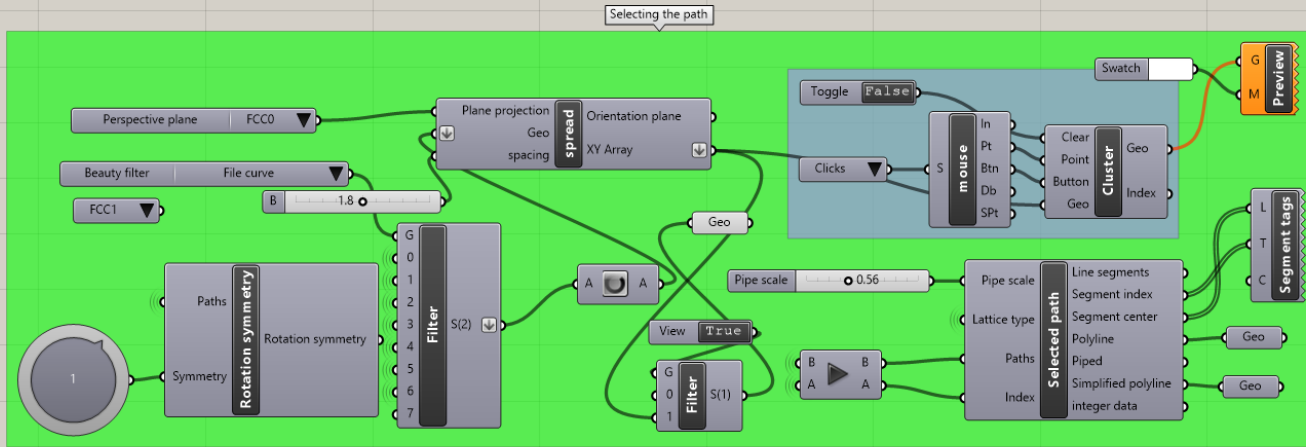
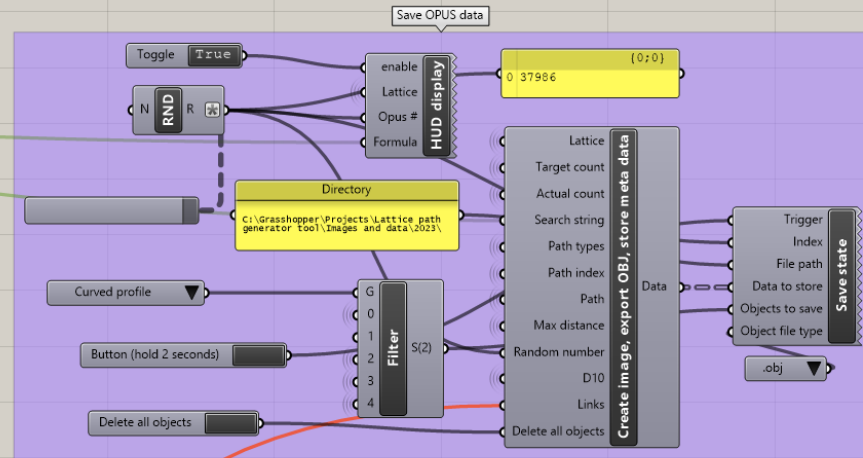
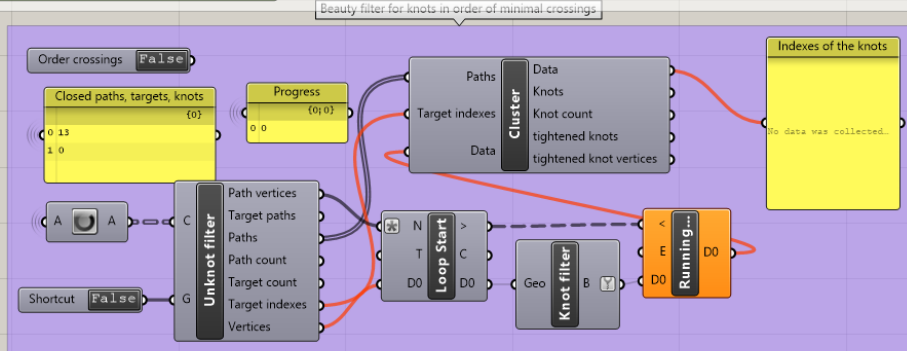
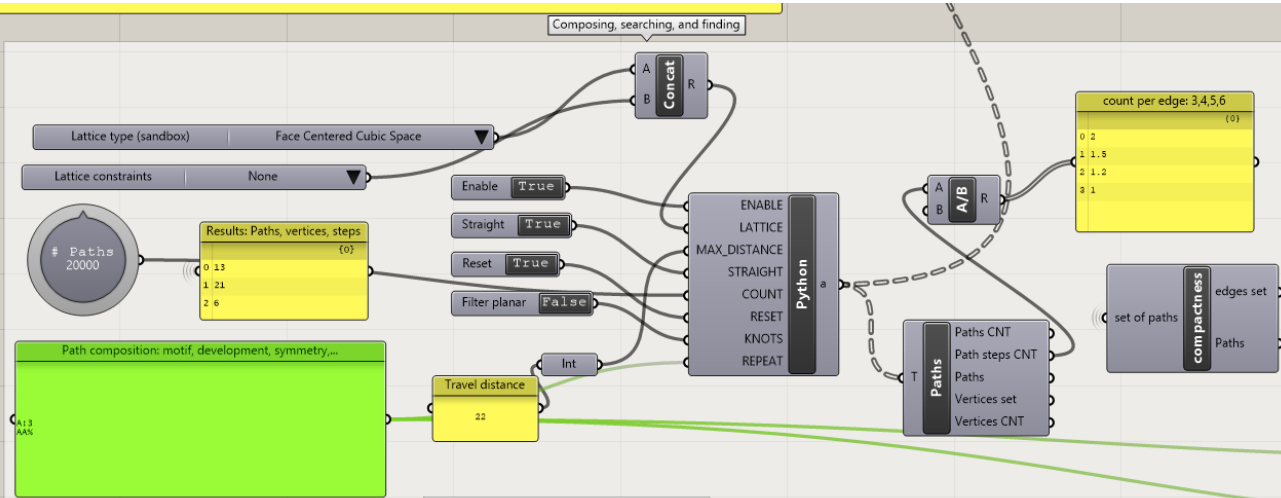
Knotted curved path



Creative process

Lattice path construction

- Paths are composed in 6, 8 or 12 directions depending the lattice
- Path composition & symmetry: A:7 B:Aa% BB
 - Motif A: A:7 (steps in FCC)
 - Repeat, reverse (Aa) and reflect (%) A the motif: B:Aa%
 - Repeat B: BB
- Filter for beauty: knots, spirals, compactness, *links*
- Polylinear or curved
- Profiling the path
- Tools: Rhino, Grasshopper, custom Python scripts



Creative process



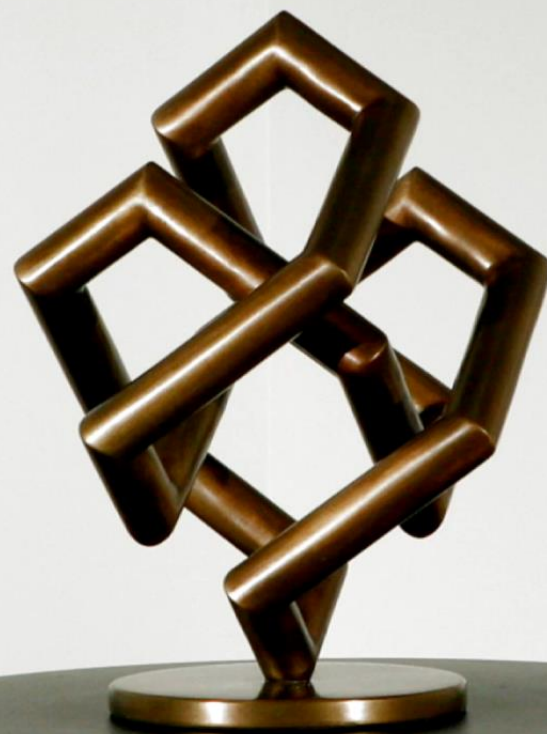
Optical illusion path



Optical illusion path



Optical illusion path



Curved knotted spiral path



Curved path



Möbius path



Current focus

Current questions and focus

- How can subjects be linked - entanglement
- Question if subjects are linked or not
- What are the relationships between subjects - relativity
- Combinations of relativity, entanglements, constraints, choker, and degrees of freedom
- What are nice fits, tight fits, constraining fits
- New materials: stone & aluminum
- What symmetries can be achieved: repeat, rotation, reflection,...

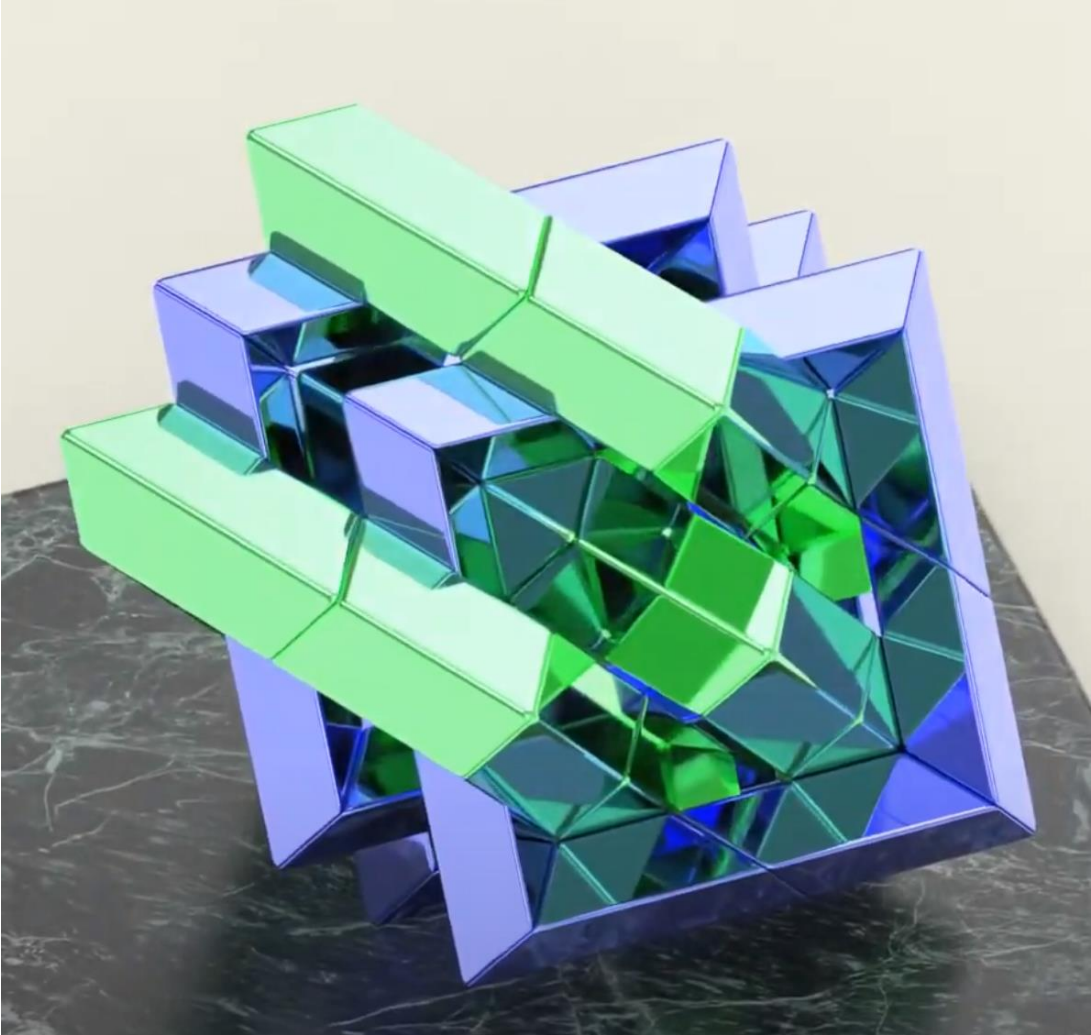
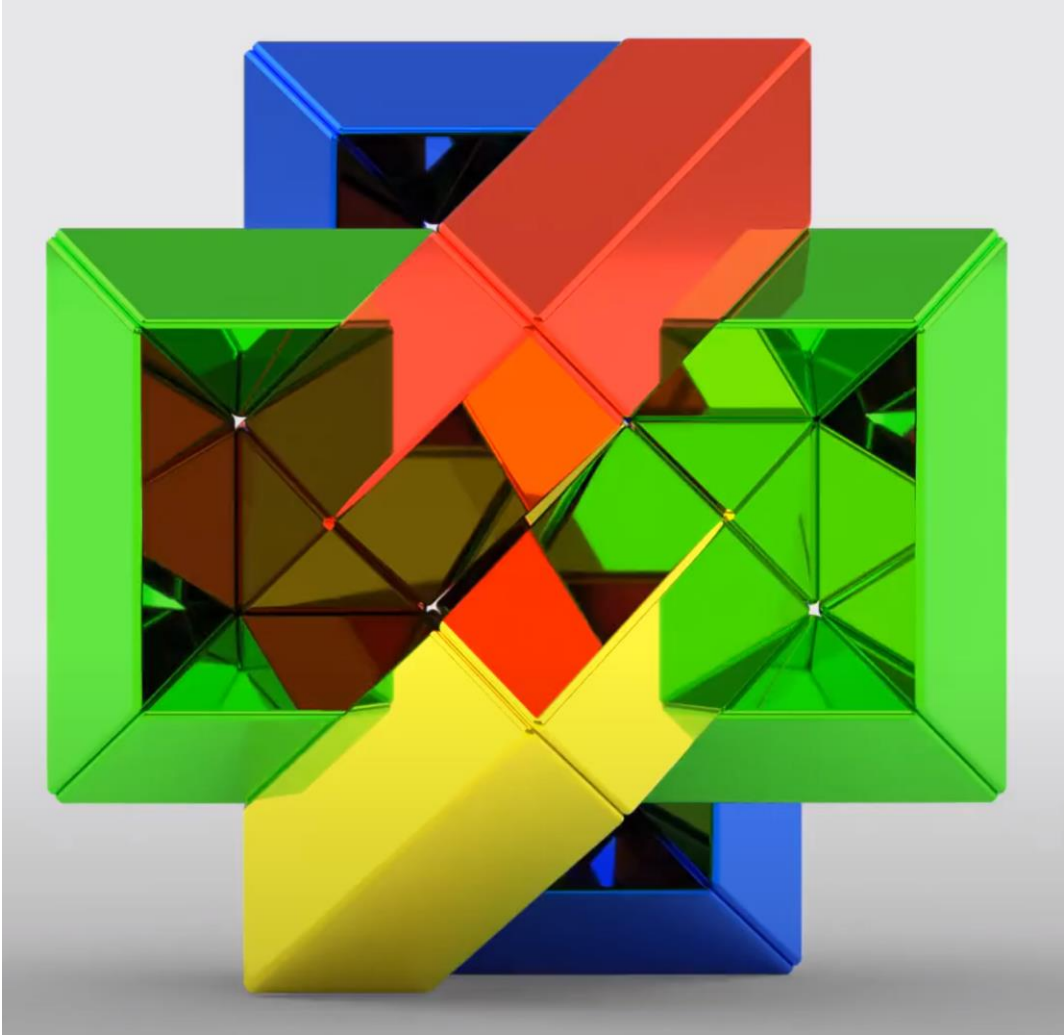
Linked paths



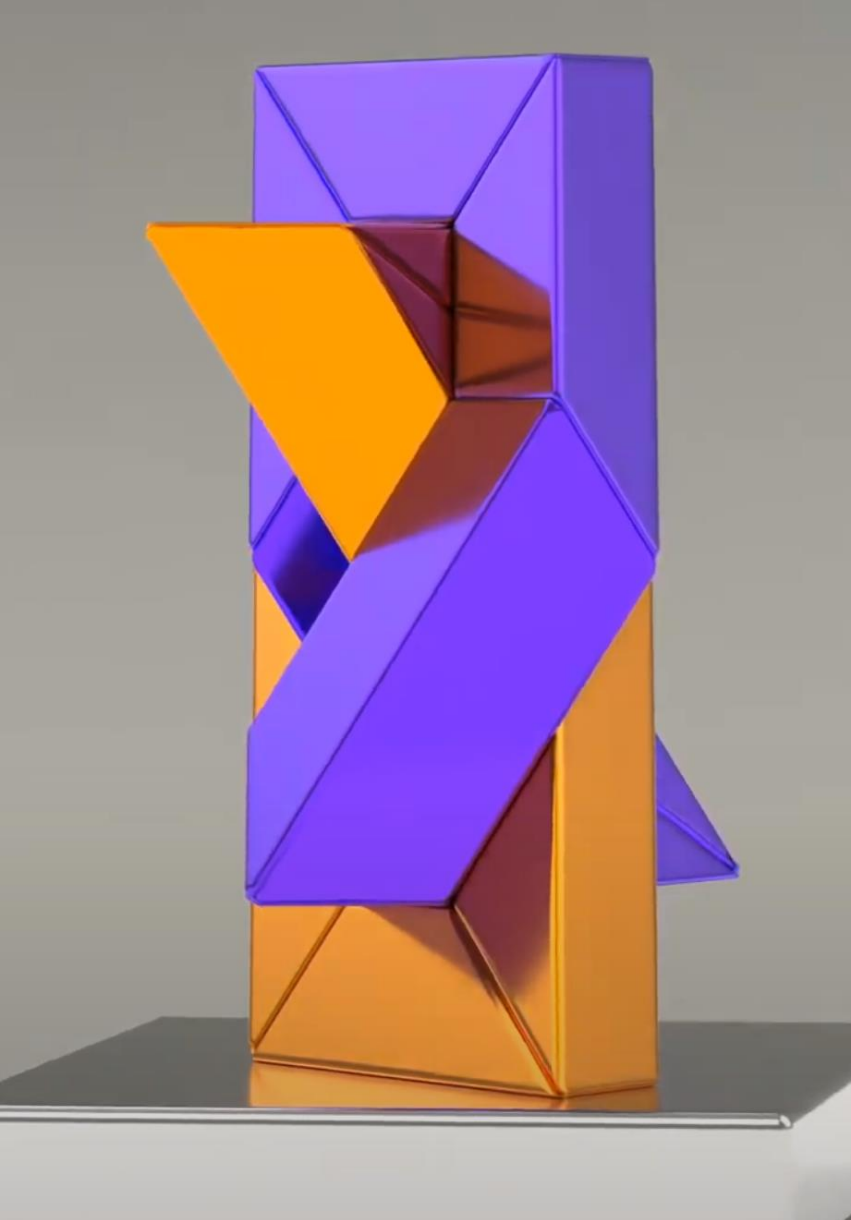
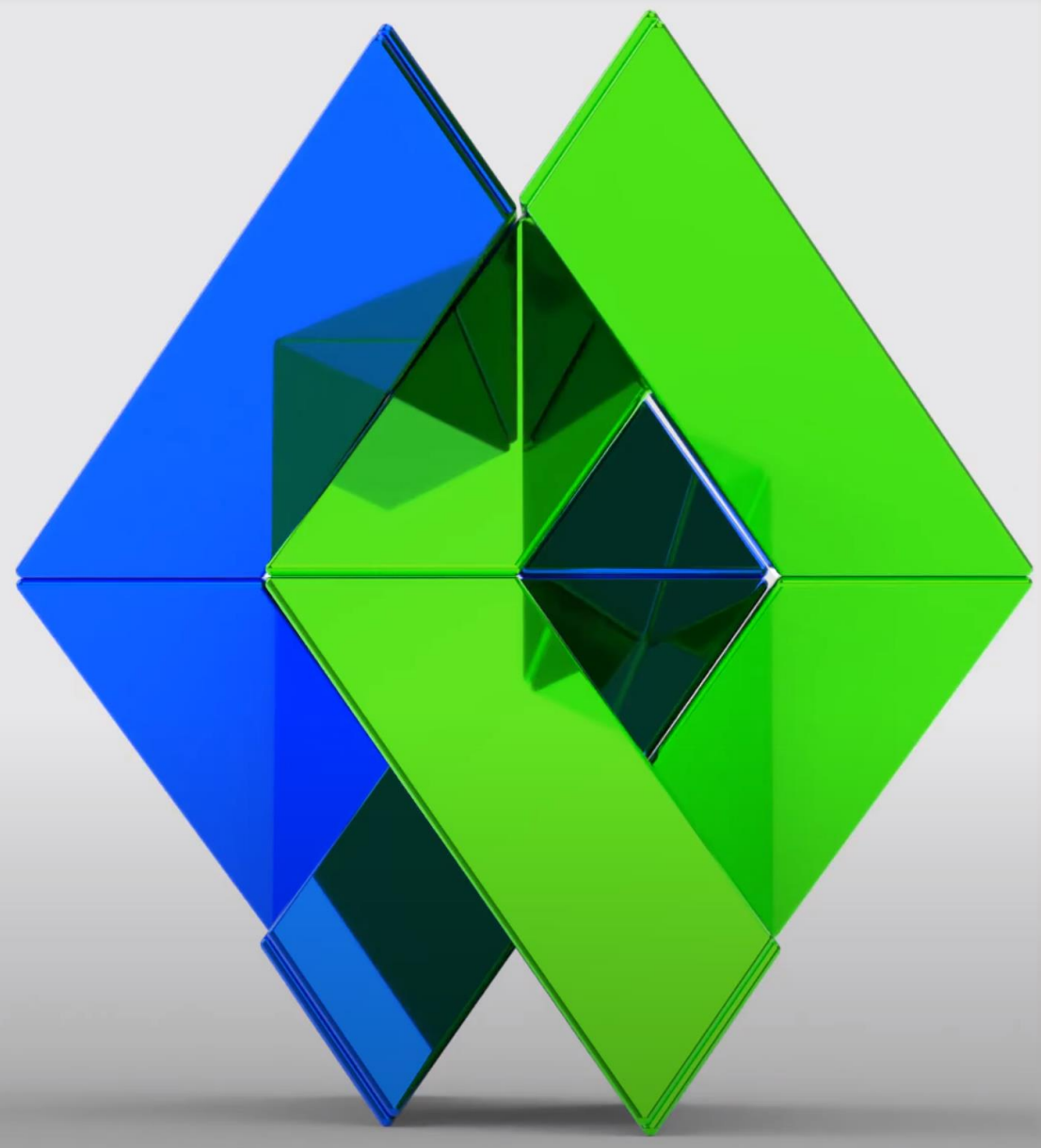
Linked and non-linked paths

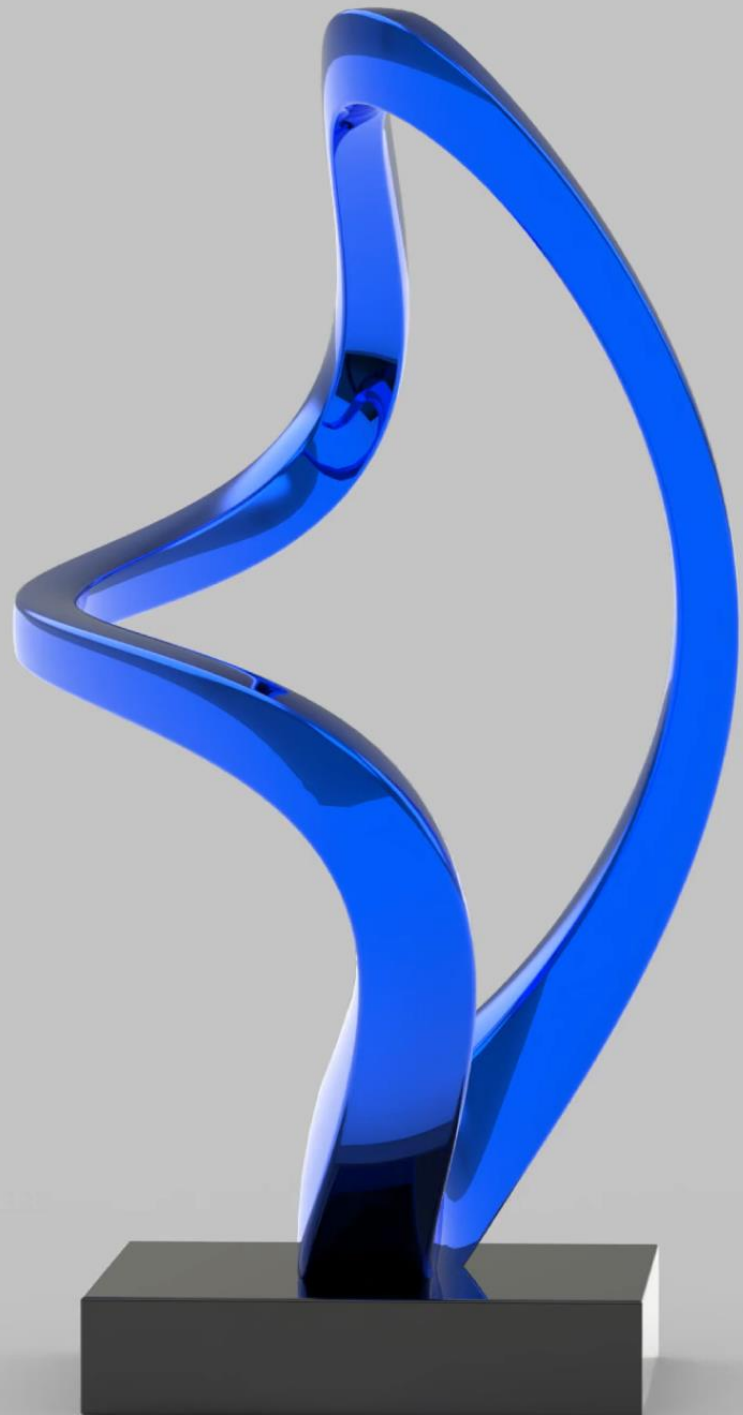


Linked paths



Non-links paths







Some closing thoughts:

- What we see are shadows of reality
- Explore multiple perspectives to discover beauty
- Symmetry is the architecture of beauty

Thank you