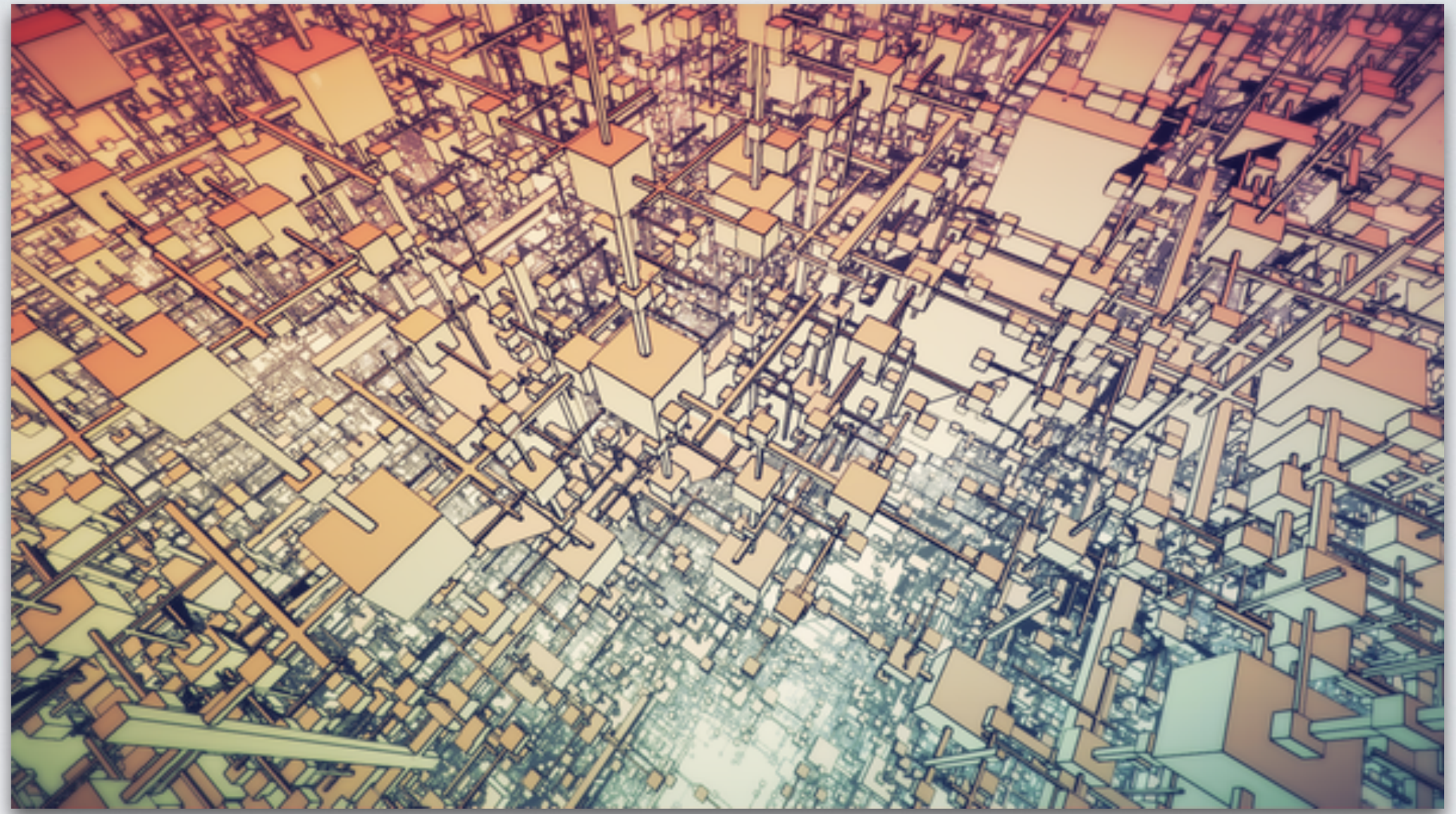
PROCEDURAL GRAPHICS



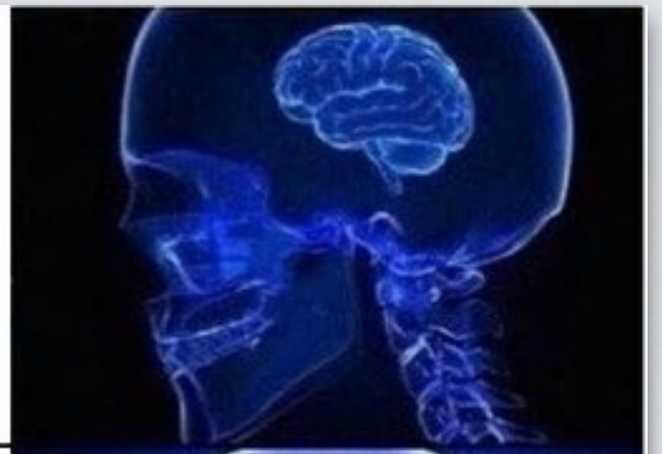
(source)

aka “how to paint with math”

WHY ARE WE HERE?

WHAT MOTIVATES YOU?

Art and science are totally different. I'm only qualified to do one.



Rigid discipline boundaries are limiting. And a bummer.

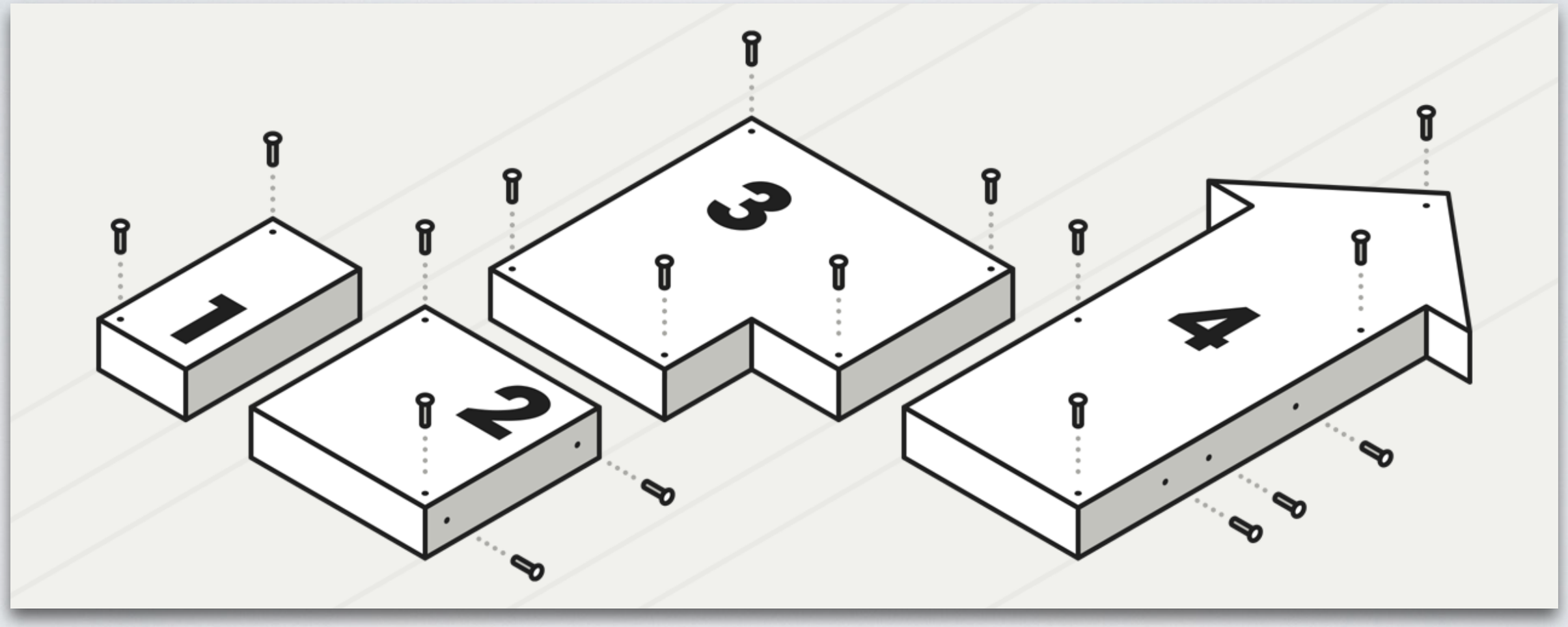
Any problem can be creative. Any problem can be rigorous.

All creative endeavors are enriched by the broad perspective born of diverse experiences

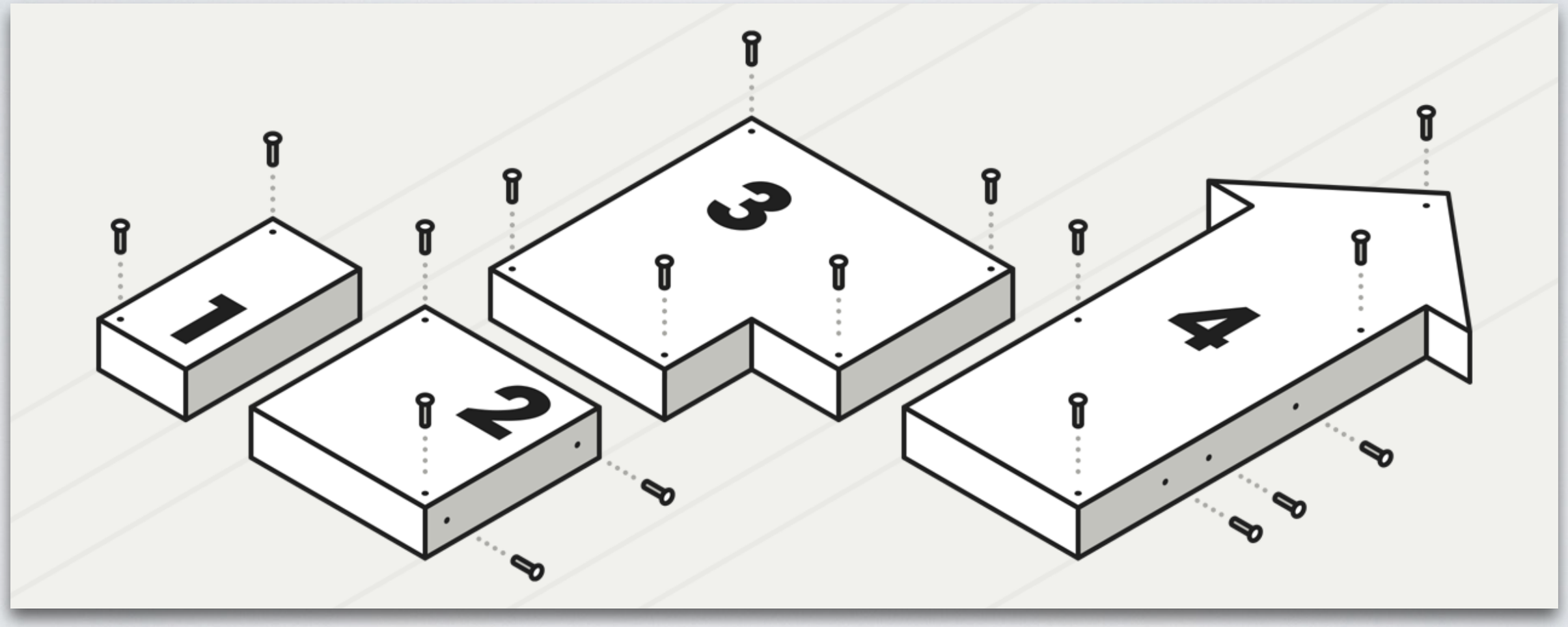
imgflip.com

WHAT DOES AN INTERDISCIPLINARY EDUCATION LOOK LIKE?

DO WE TEACH CREATIVE ENGINEERING HERE?



HOW DO WE TEACH CREATIVE ENGINEERING HERE?



- TOOLS & TECHNIQUES (& PRACTICE!)
- INSPIRATION
- ROOM TO EXPERIMENT

- TOOLS & TECHNIQUES (& PRACTICE!)
- **INSPIRATION**
- **ROOM TO EXPERIMENT**

THEREFORE

COURSE GOALS

- Learn a toolkit of helpful procedural techniques
    - Understand the underlying theory
    - Develop intuitions about how to apply and parameterize
- Get familiar with new mediums/technology for procedural artwork
    - three.js / javascript
    - Houdini / Shadertoy / Substance Designer (?)
- Practice approaching relatively unstructured, open-ended problems
- Start/continue developing a portfolio of visually and technically impressive work

COURSE GOALS

- Build community
- Build professional skills

COURSE GOALS

- **Have fun**

- Also be, like, not too much work because we all have too much work 8)

COURSE STRUCTURE

- Website: https://cis700-procedural-graphics.github.io/
- Twice a week: 50% lecture, 50% related in-class exercises
- 100% project based
    - 50% hw
    - 30% final project
    - 20% in class assignments (submissions open till midnight)
    - +(5%) community / class building
- Grading criteria
    - Conceptual mastery
    - Engineering effort / code organization
    - Visual output / creative application

SCHEDULE

- Week 1: What is Proceduralism
- Week 2: Noise
- Week 3: Toolbox methods
- Week 4: Procedural textures
- Week 5: L-systems
- Week 6: L-systems extended
- Week 7: Houdini
- Week 8: Procedural Levels
- Week 9: Procedural Narrative
- Week 10: Procedural Characters
- Week 11: Special topics
- Week 12: Special Topics
- Week 13: Special Topics
- Week 14: Final Project

ONTO THE ENTREE