

Daniel Catt

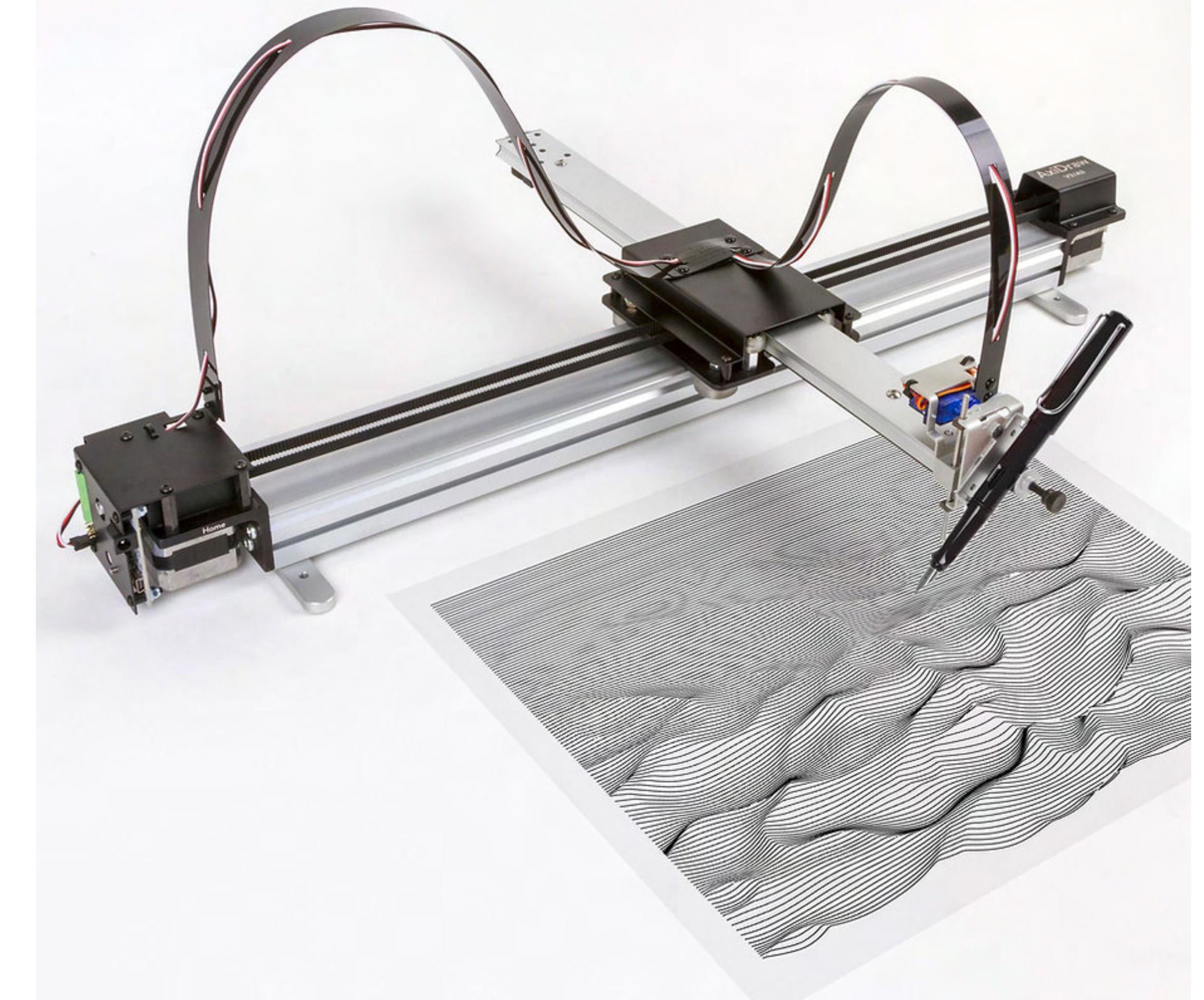
Drawing Machines

CSC December 6th, 2024

Tiffany Tseng, Barnard Computer Science

Workshop Goals

- Learn (a little bit) about the history of plotter art
- Learn about pen plotters and the AxiDraw
- Get hands-on with Processing & P5.js to create a generative art sketch
- Create a postcard of your p5.js sketch with the AxiDraw







r/PlotterArt

Plotter Art

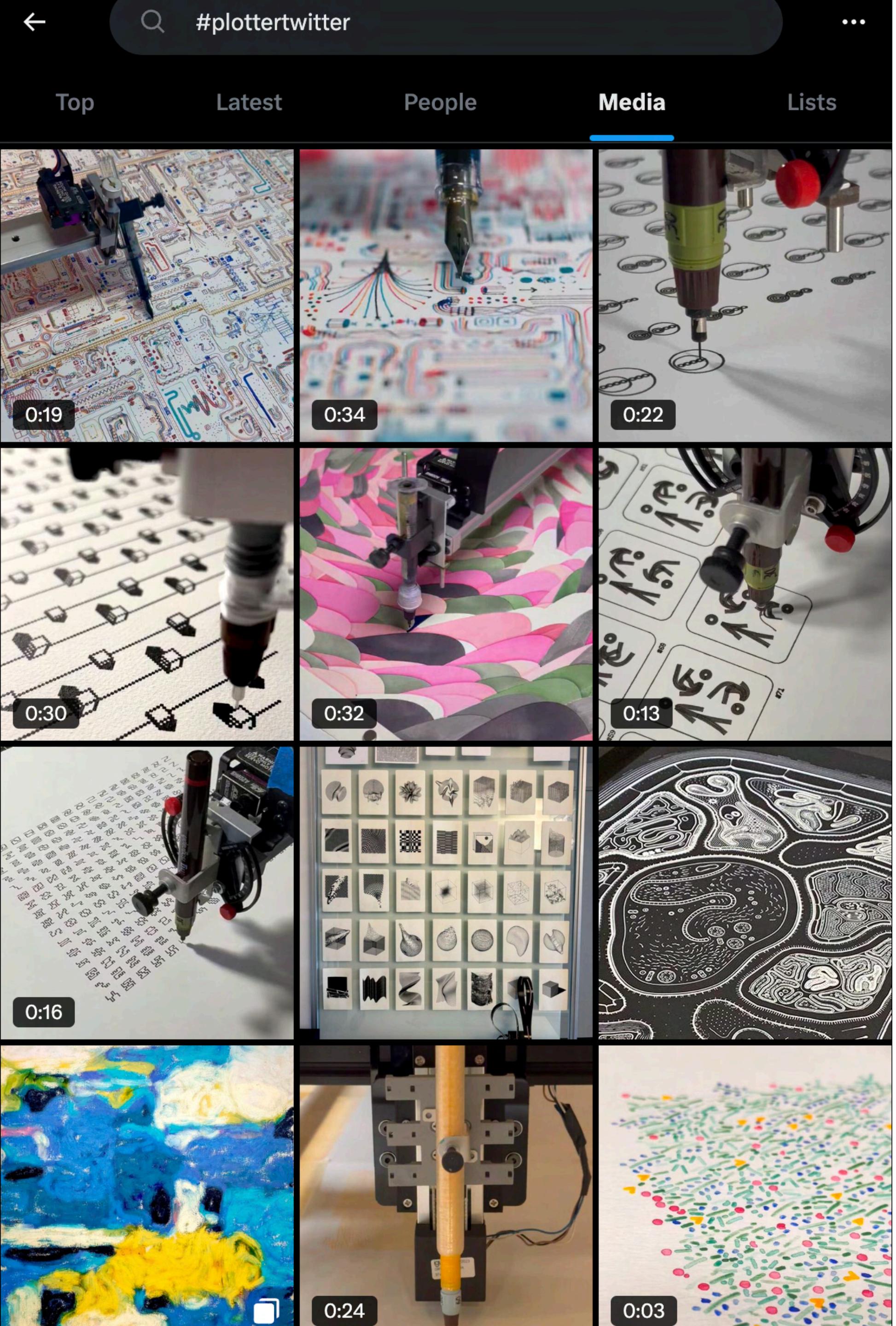
Welcome to Plotter Art, the creative hub for plotter art enthusiasts and digital artisans!

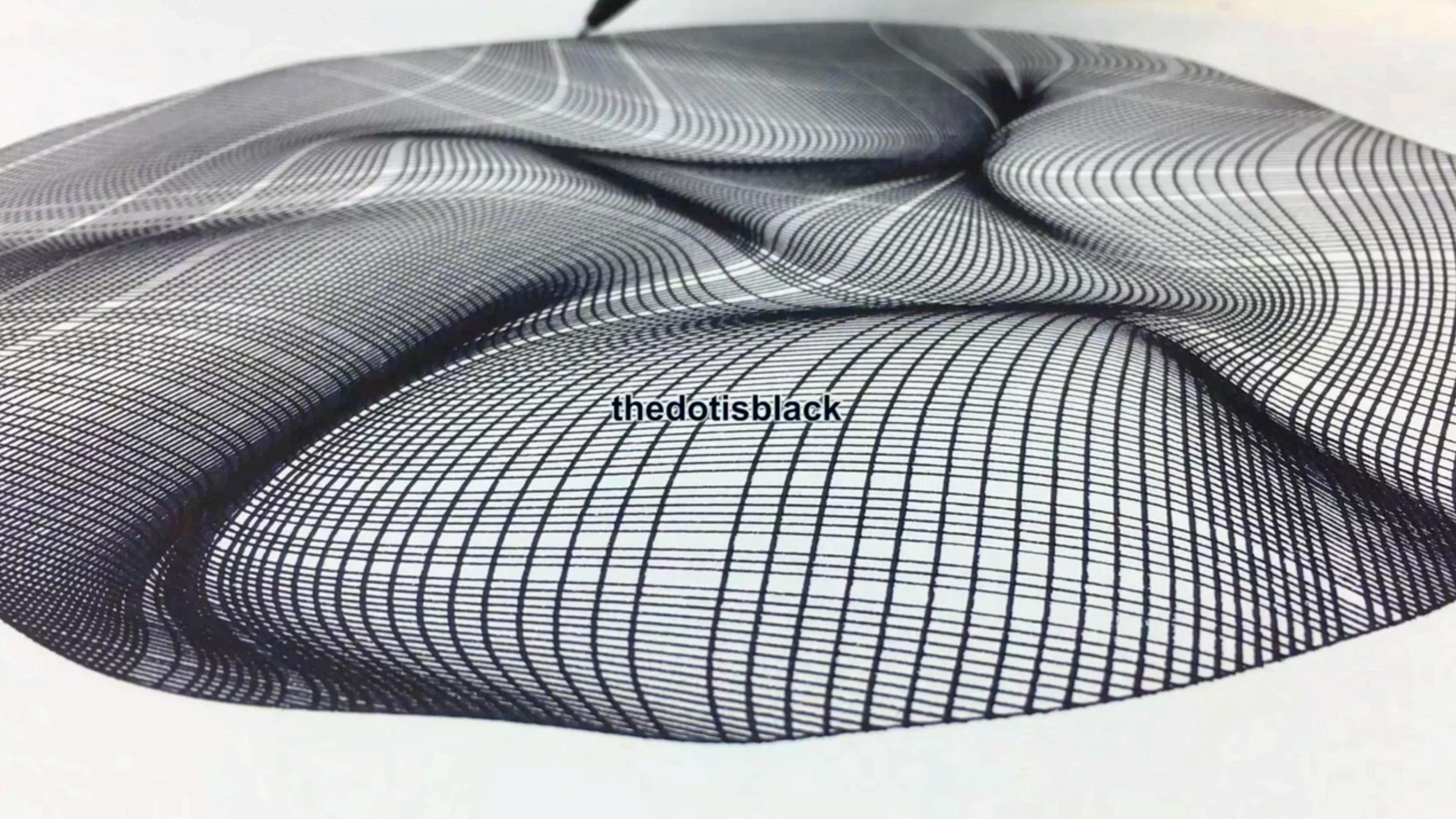
 Created Jan 26, 2018

 Public

12K Members **4** Online

Top 7% Rank by size ↗





thedotisblack

Agenda

- Brief overview of digital art with plotters
- Introducing the AxiDraw
- Introducing Processing & P5.js
- Create your first AxiDraw Sketch

Computer Art Before Computer Graphics: Printers & Plotters

FROM ASCII ART TO COMIC SANS

TYPOGRAPHY AND POPULAR
CULTURE IN THE DIGITAL AGE

Karin Wagner

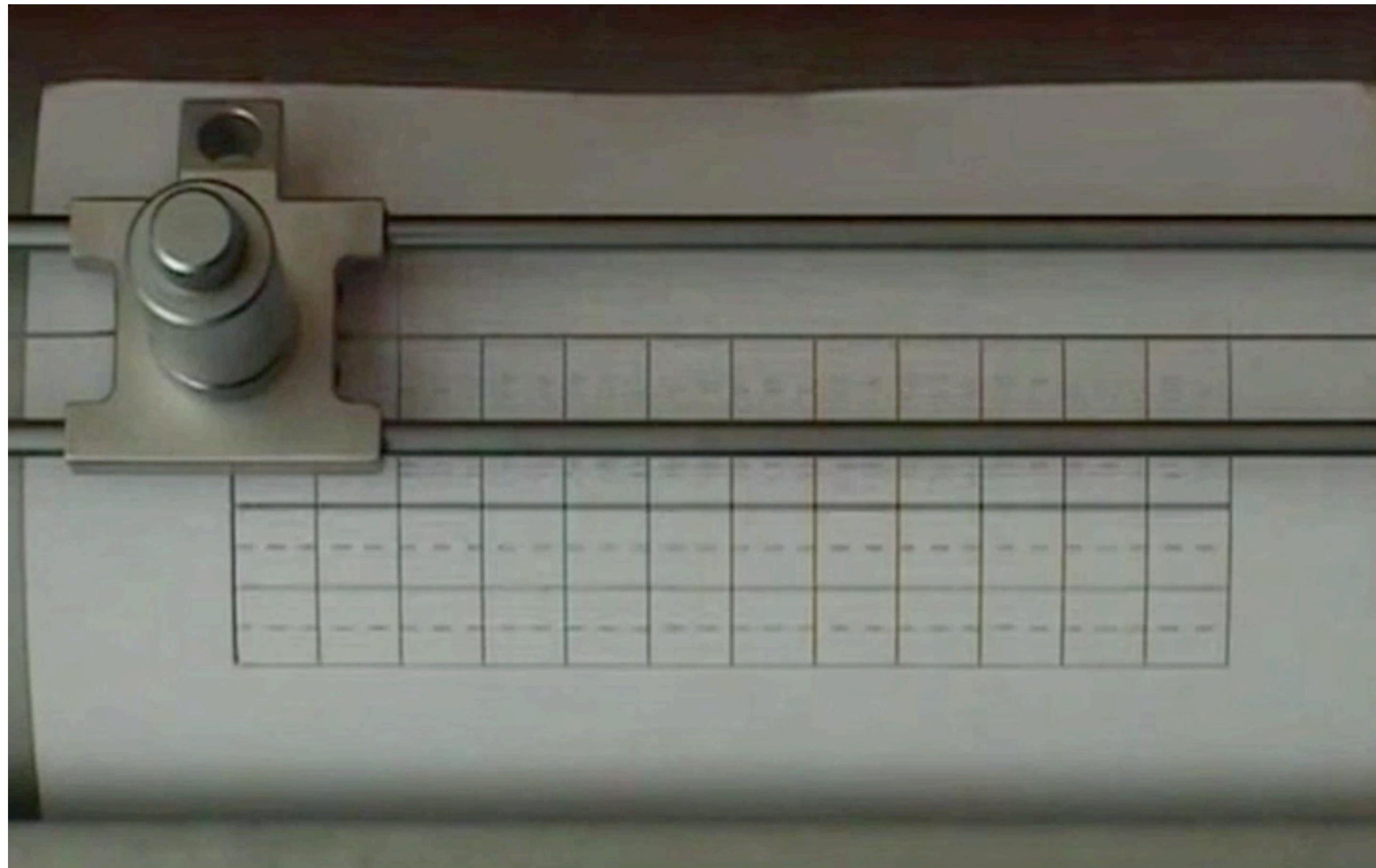
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**From ASCII Art to Comic Sans:
Typography and Popular Culture in
the Digital Age**

Karin Wagner

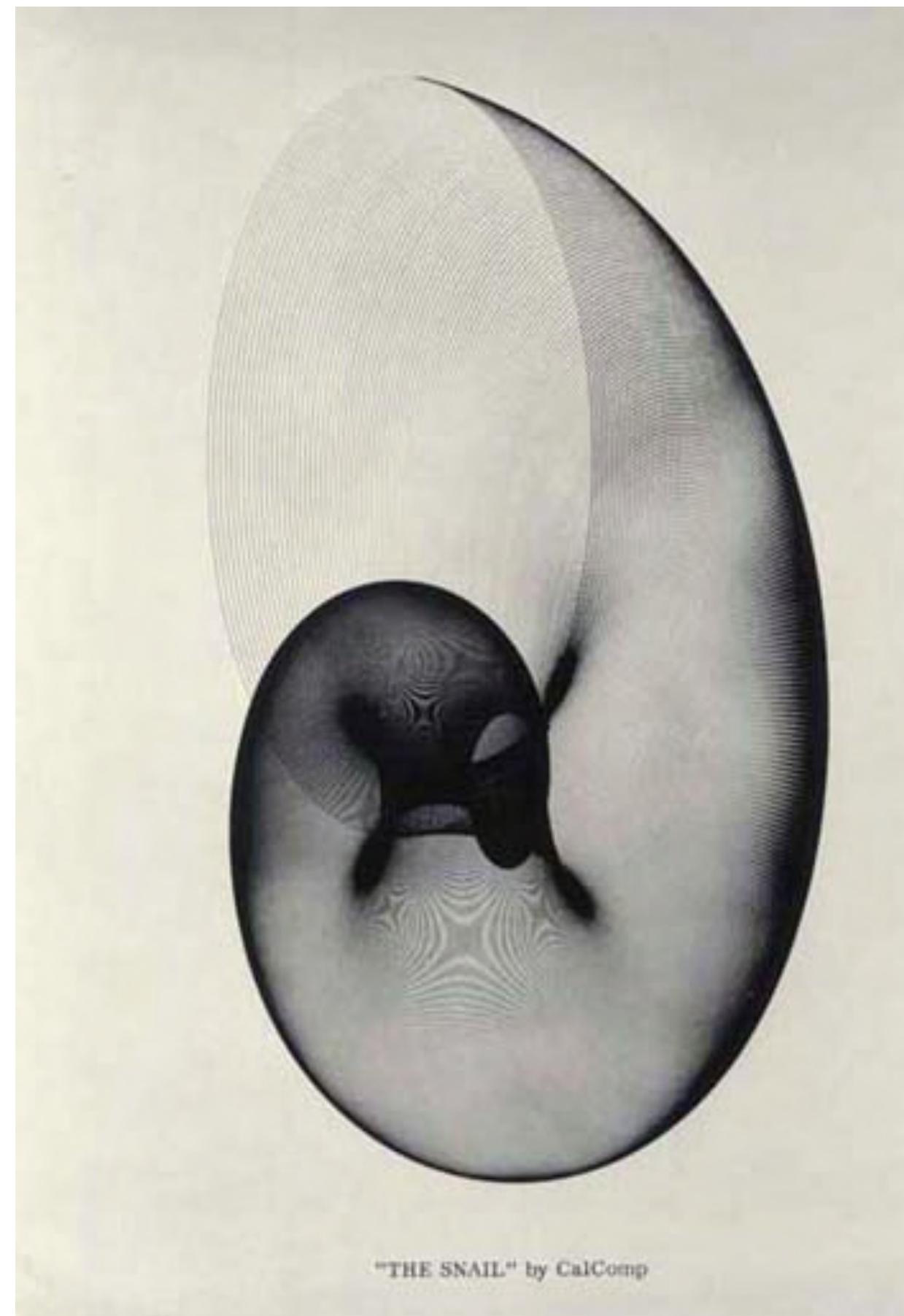
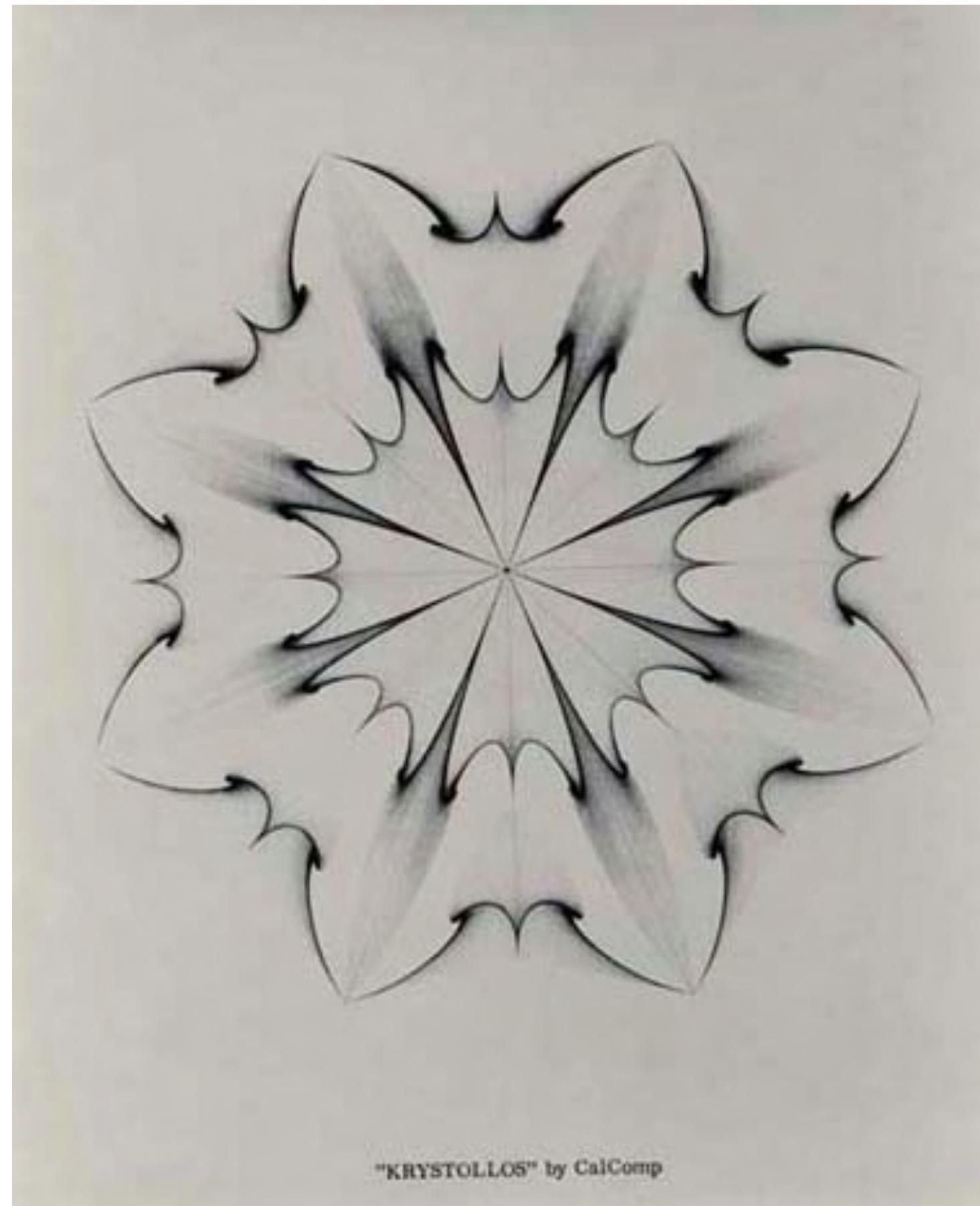
MIT Press, 2023

Pen Plotters



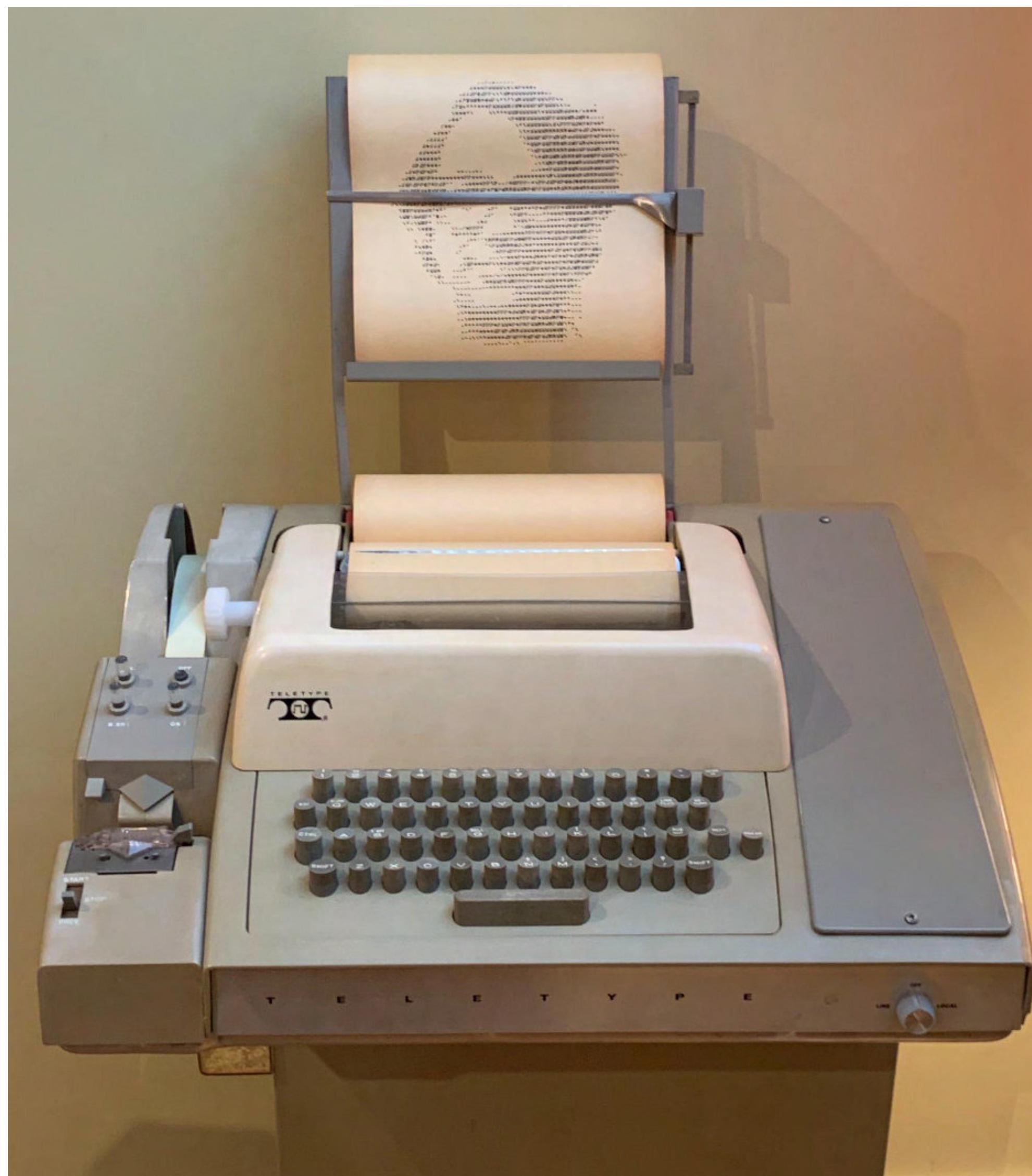
- CalComp 565 (1959)
- Used for printing blueprints, graphing data, drawing maps, etc.
- Much finer detail than available with computer graphics at the time

Pen Plotters for Art



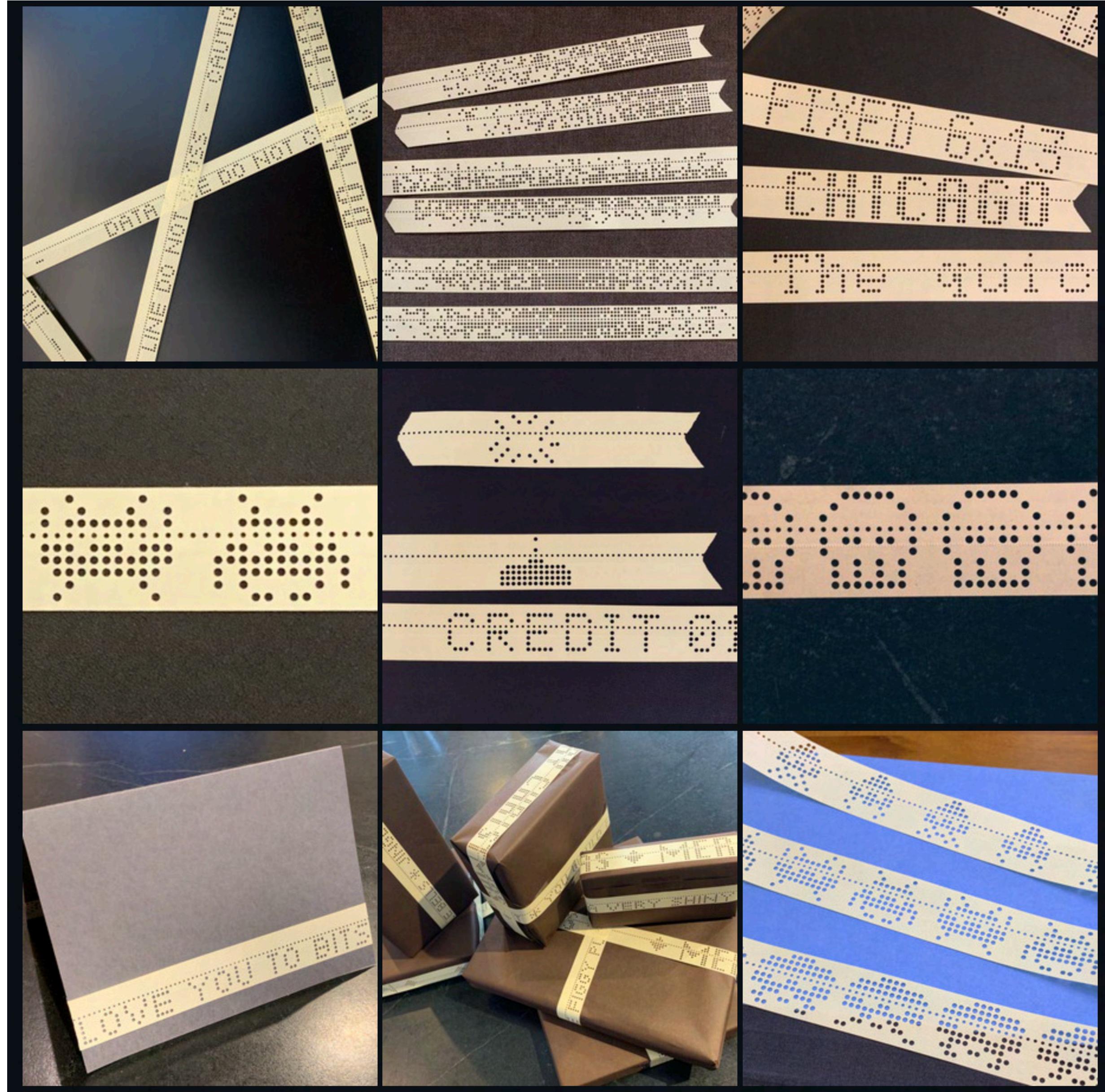
- CalComp Art Competition
1968

Teletype (1960s)



<https://kbd.news/Teletype-Model-33-1274.html>

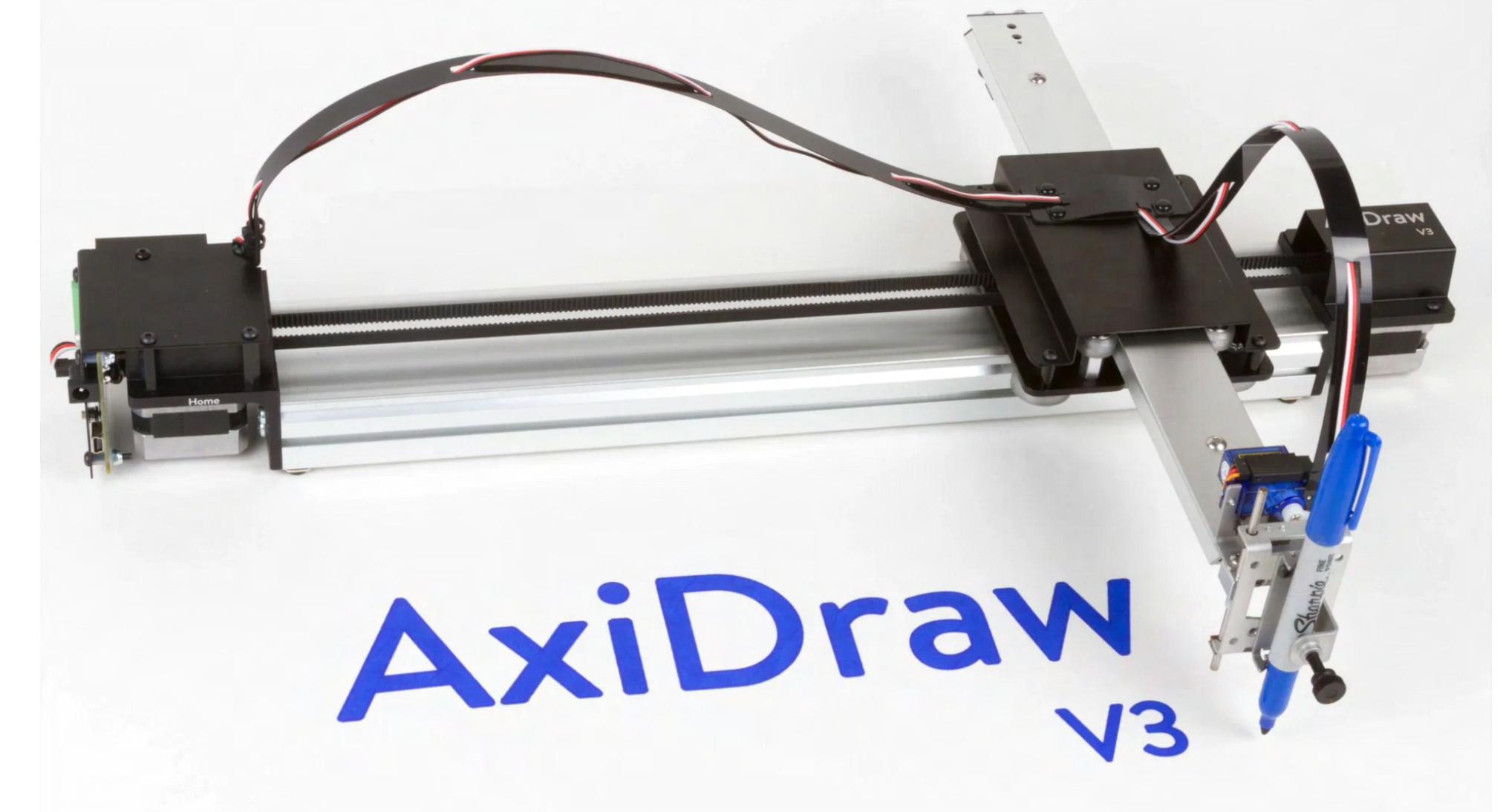
https://www.youtube.com/watch?v=OVdoU-BqFHY&ab_channel=CelGenStudios



<https://github.com/hughpyle/ASR33/blob/master/bin/patterns/README.md>

AxiDraw: Modern-Day Pen Plotter

- Originally created by *Evil Mad Scientist* (Lenore Edman and Windell Oskay) in 2014
- Now *Bantam Tools* (and the machine is rebranded as NextDraw)



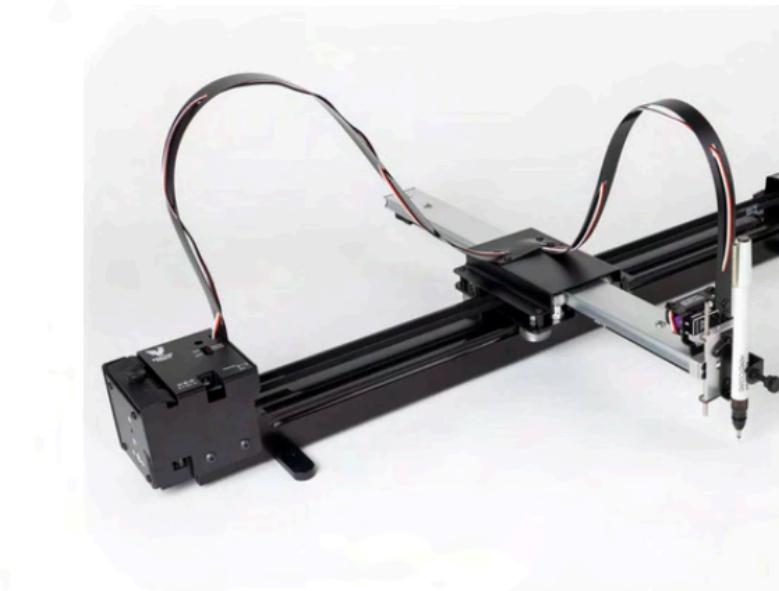
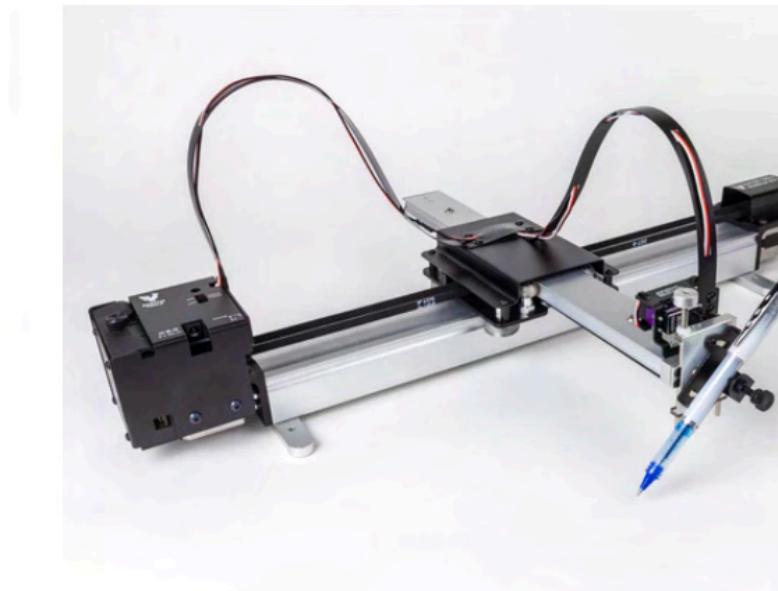
AxiDraw
v3



Bantam Tools NextDraw™

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3 products

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AxiDraw MiniKit 2

Precision pen plotter: Compact DIY kit edition

Not currently available.

Introducing the AxiDraw MiniKit 2: A compact DIY-kit version of the AxiDraw

About AxiDraw

The AxiDraw pen plotters are a family of simple, modern, precise, and versatile machines; capable of writing or drawing on almost any flat surface. They can write with your favorite fountain pens, permanent markers, and other writing implements to handle an endless variety of applications.



Cricut Maker

Barnard Design Center has them!



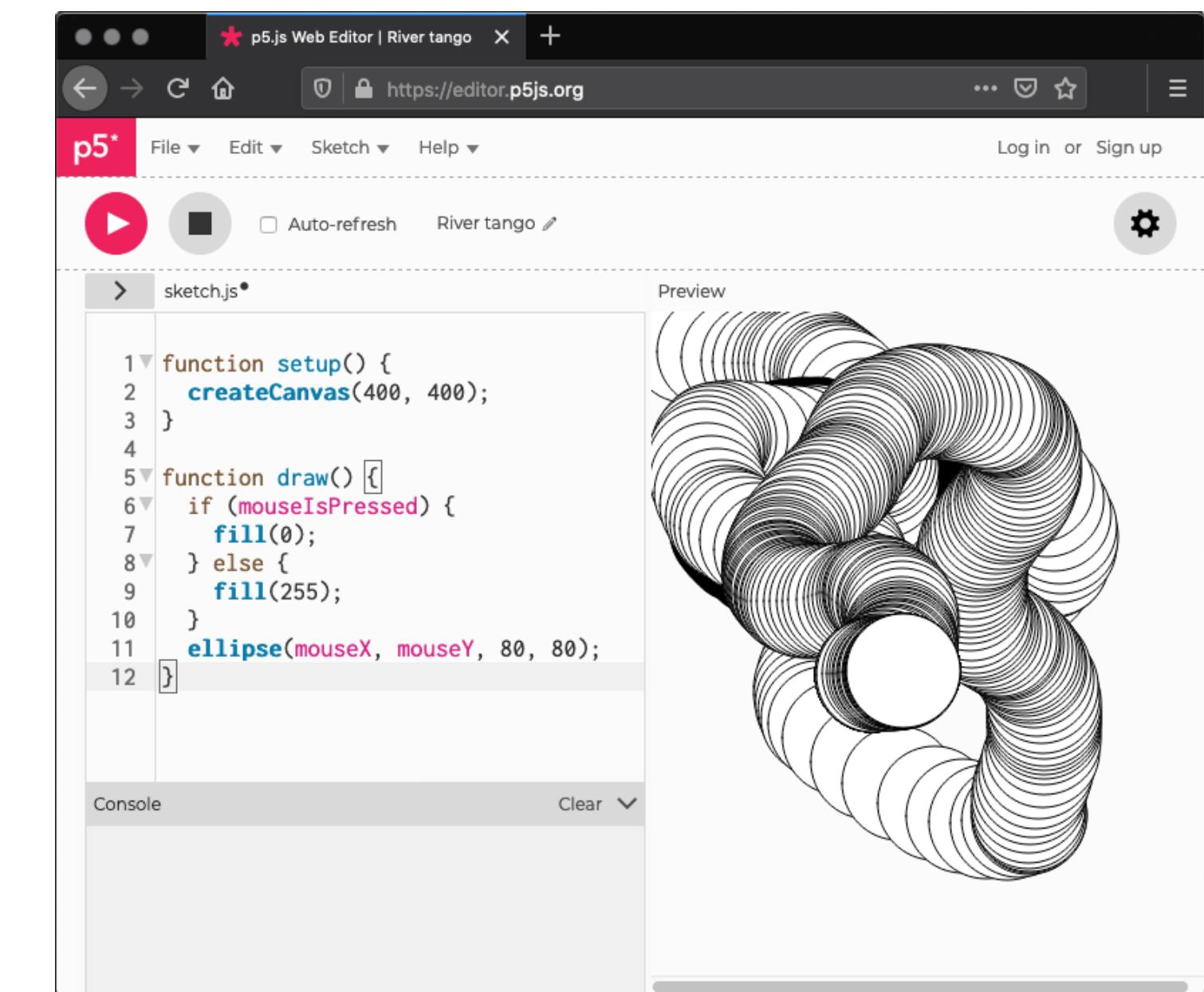
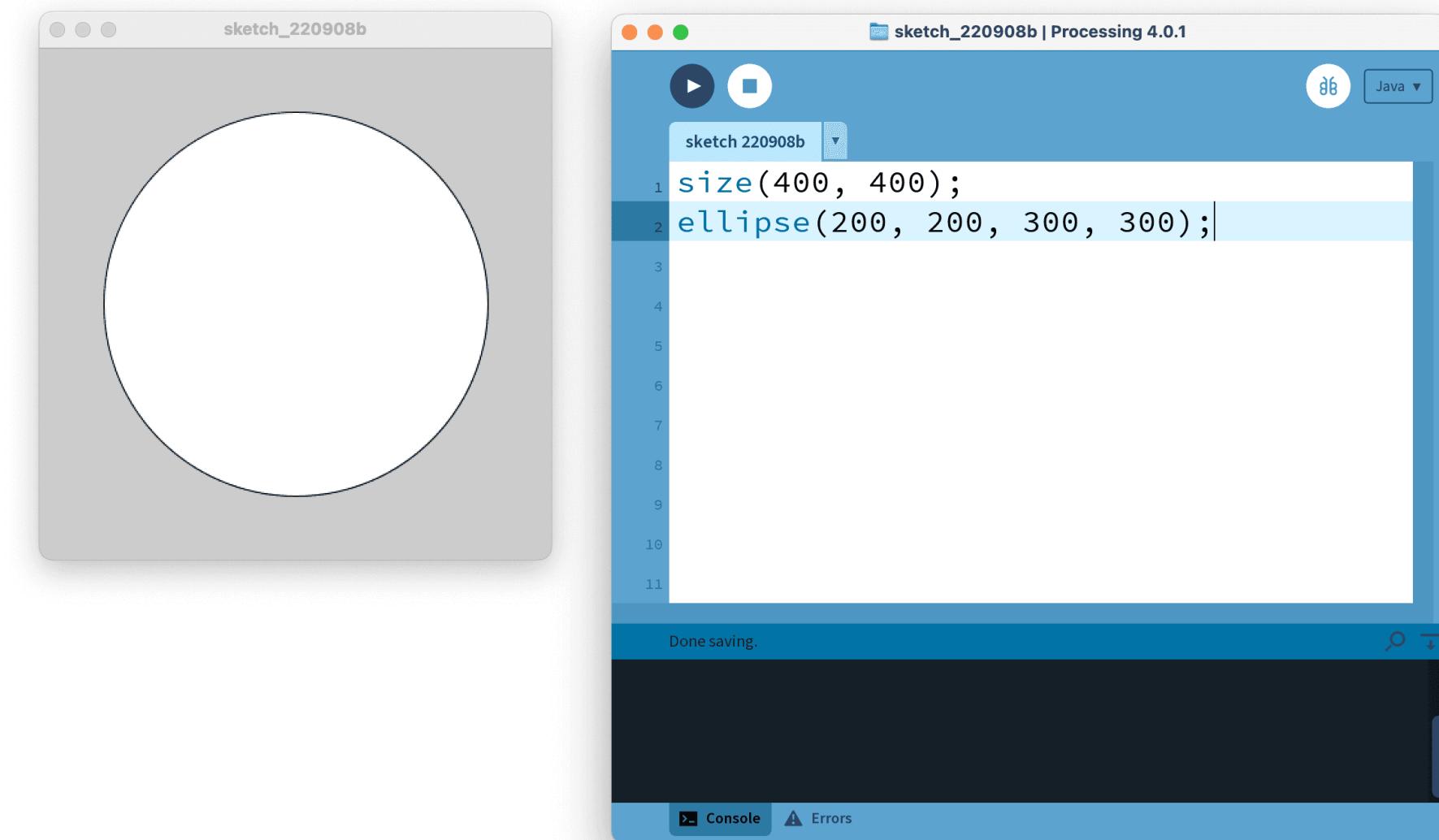
Silhouette Cameo

Creating our own digital art

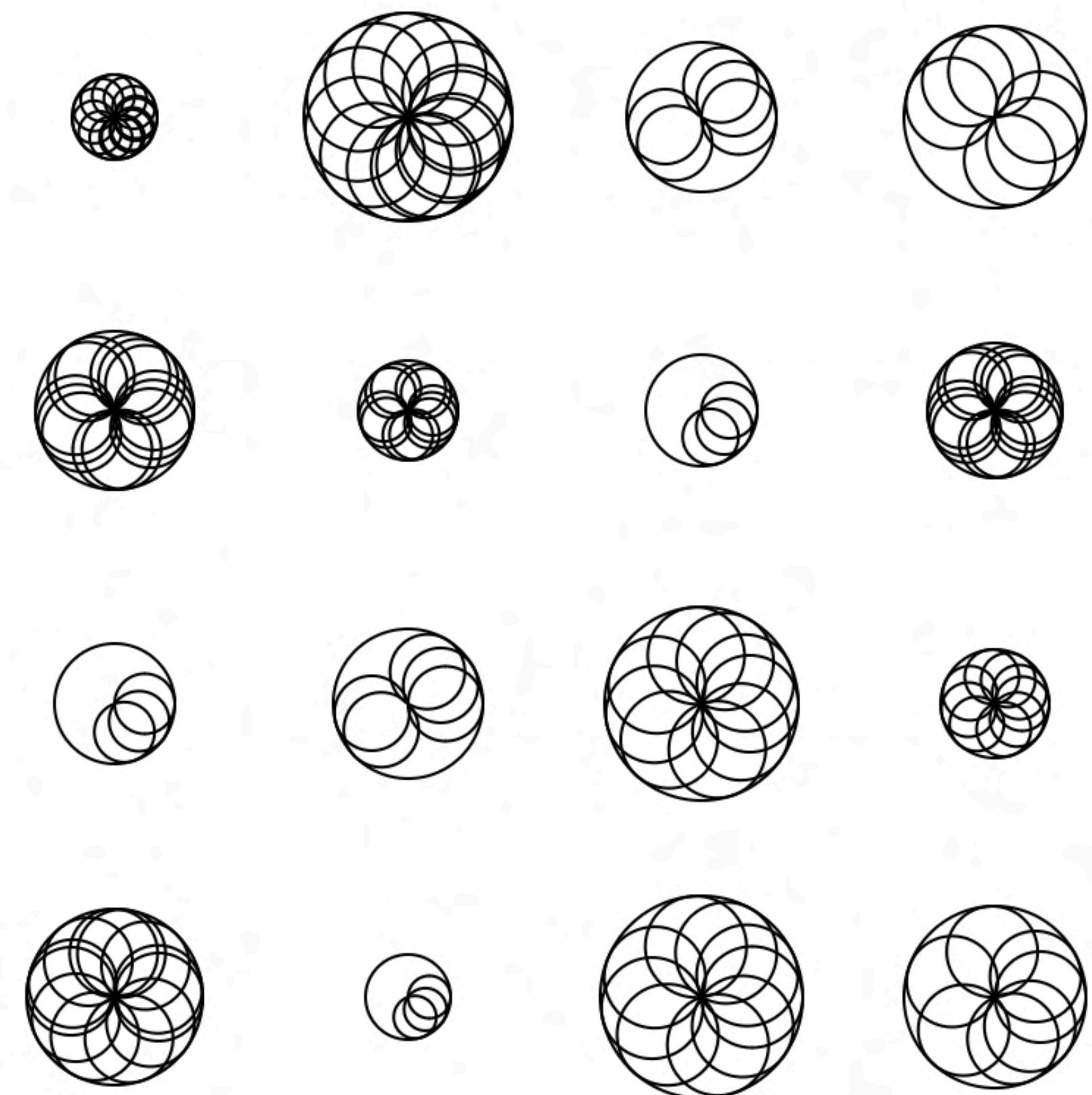
Note: You don't need to create art with code to use a pen plotter - you just need to be able to send it an SVG or other vector art. So you could create it in Illustrator, for example!

Processing & P5.js

- Processing started at MIT Media Lab in 2001 in the Aesthetics and Computation Group
- Mission: “Empower people of all interests and backgrounds to learn how to program and make creative work with code, especially those who might not otherwise have access to these tools and resources.”
- Processing - Java, desktop-based
- P5.js - Javascript, web-based



Generative Art

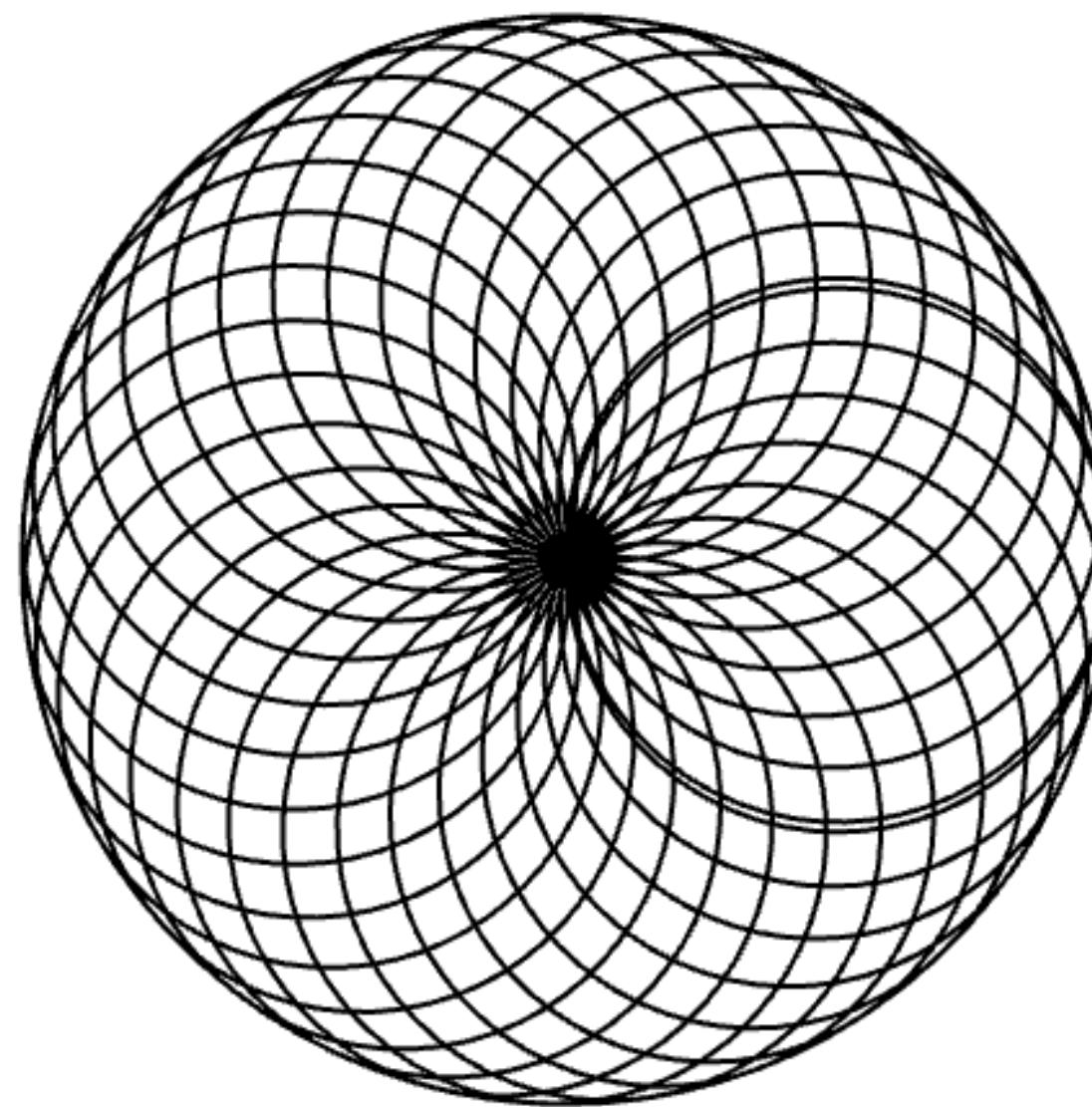


- Artwork created from a set of rules (i.e., code)
- Manipulating parameters can lead to very different results

P5.js Activity

- I'll live code and you can follow along

Create a graphic consisting of symmetrical interior circles



P5.js Activity

Everyone can open <https://editor.p5js.org/> in a browser to get started

Plotting the art with AxiDraw

Create your postcard!

Option 1

- Choose a colored pen and come up 1 by 1 to create your postcard with the AxiDraw using the design from the activity

Option 2 (If comfortable with Processing)

- You can modify the Processing sketch to create a custom design and set it up in Inkscape. Email the design to ttseng@barnard.edu so we can send this custom file to the AxiDraw
- Please have your design ready by 1:30 so there's enough time to make it!

