

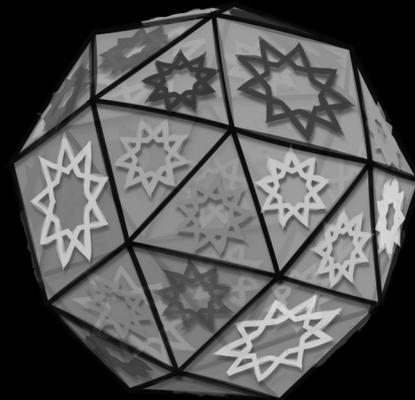
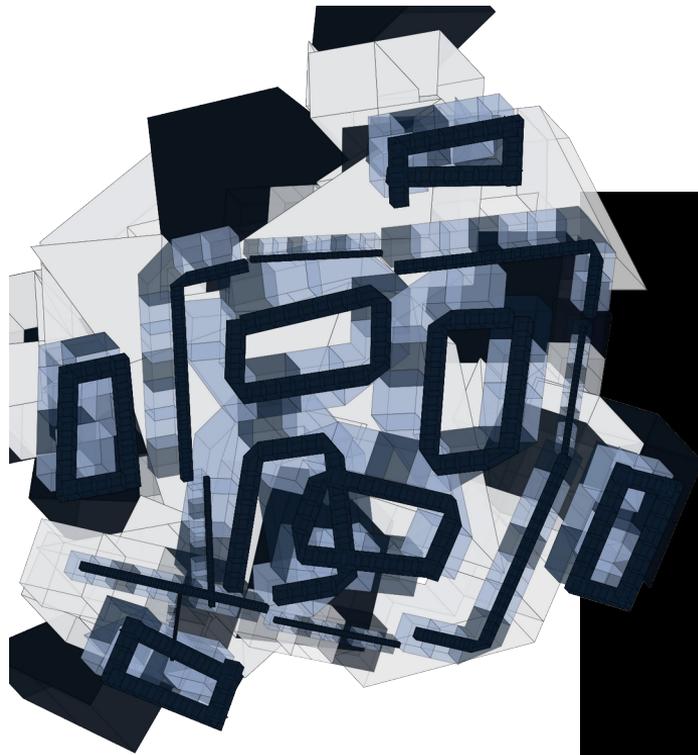
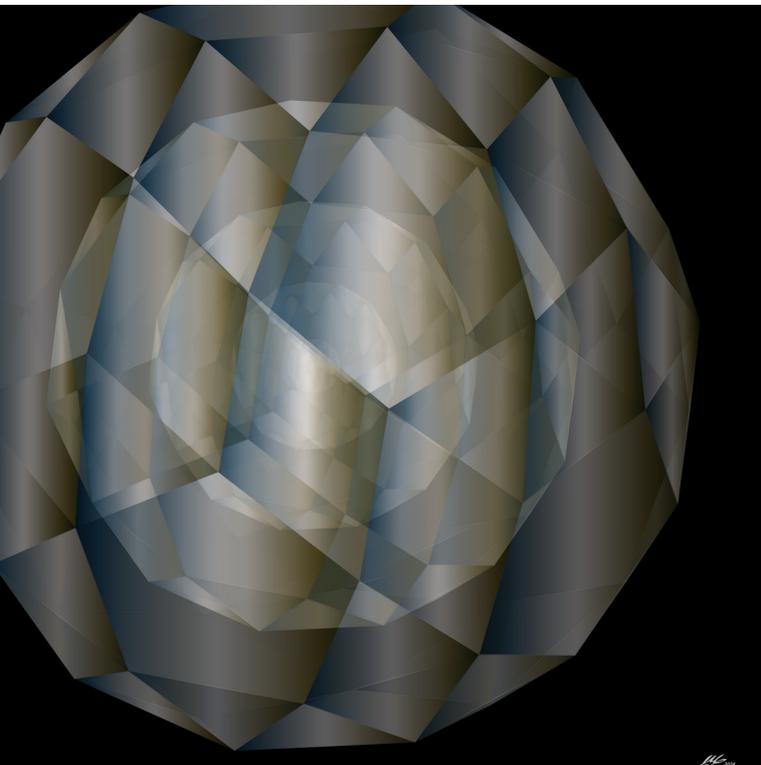
• Recent Art

- Mary Holstege
- 2024

(A flock of paired cubic edges over the gorgeous “managua” gradient.)



3D



Colophon

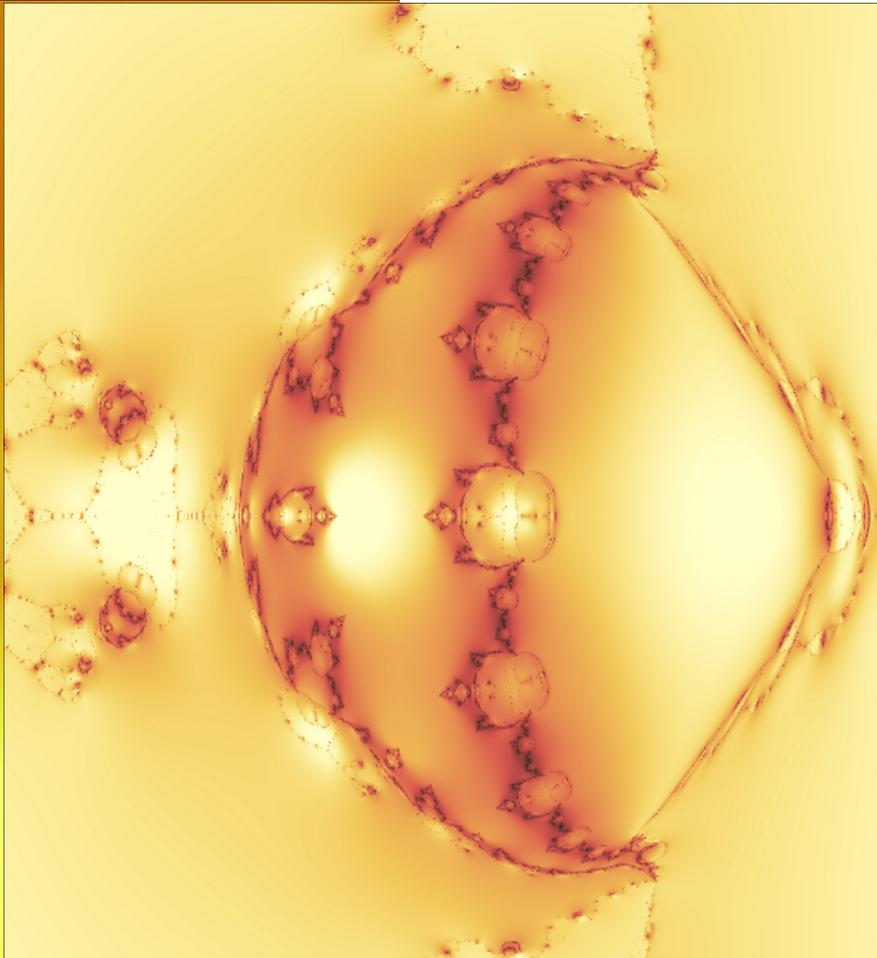
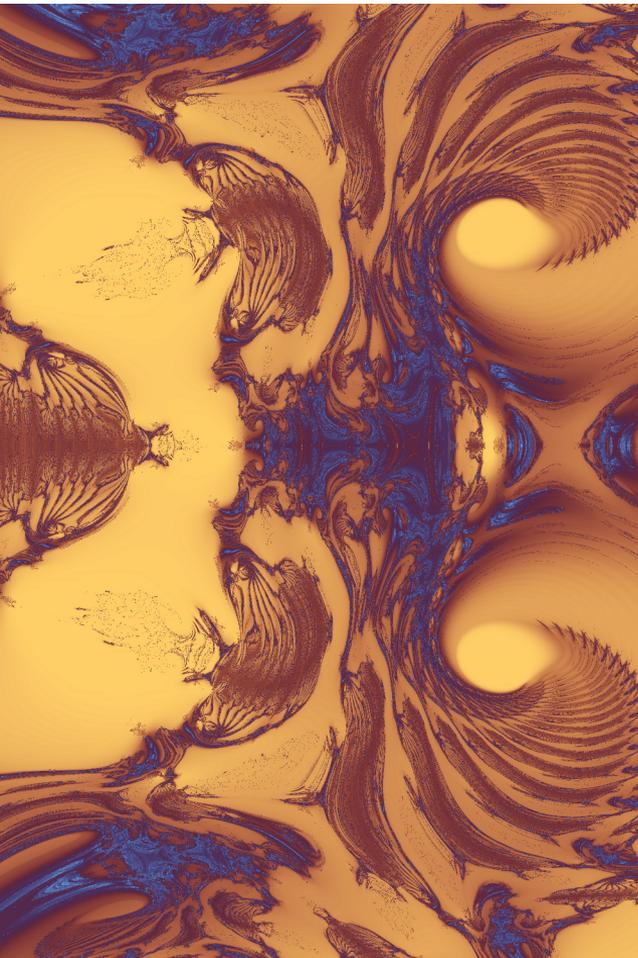
This year I made significant extensions to my solid geometry code, including adding some generic operators (which then got mapped into the art shell)

Left: Onioning a polyhedron

Right: Plastering a star onto each face of a polyhedron

Center: metallic sequence fractal over a space filling-curve, projected

(Pseudo) Newton Fractals



Colophon

Newton fractals: iterate $z[n+1] = z[n] + a f(z[n])/f'(z[n])$
over the complex plane

I added more variety to functions (e.g. product of a
polynomial over $\sin(z)$ with a polynomial over z)

But I accidentally got the derivative wrong – and it still
came out beautifully

So I leaned into that and ran with using arbitrary function
 g instead of derivative

Colors: left=managua, center=oxygen, right=lajolla

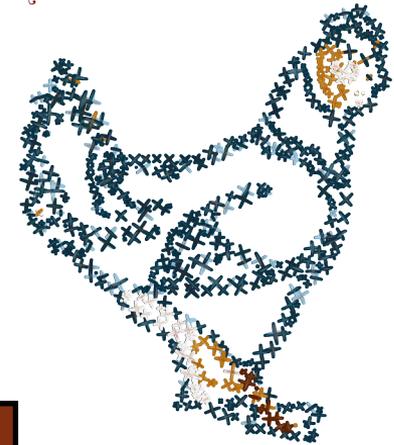
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Combining fc-match and ImageMagick I can enumerate all the characters in a font and generate an SVG file giving the shape of a character.

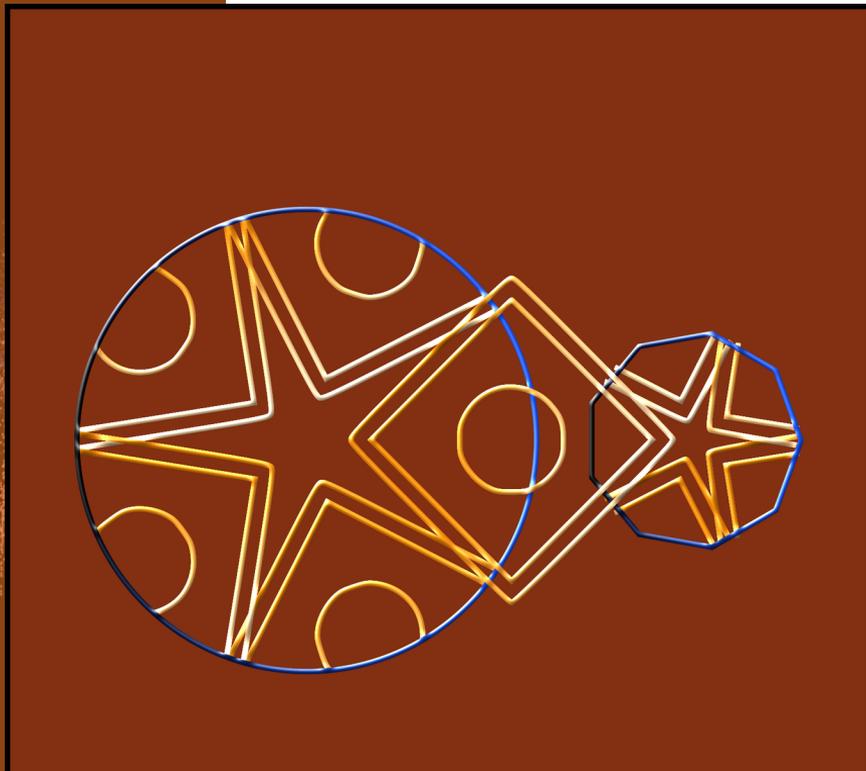
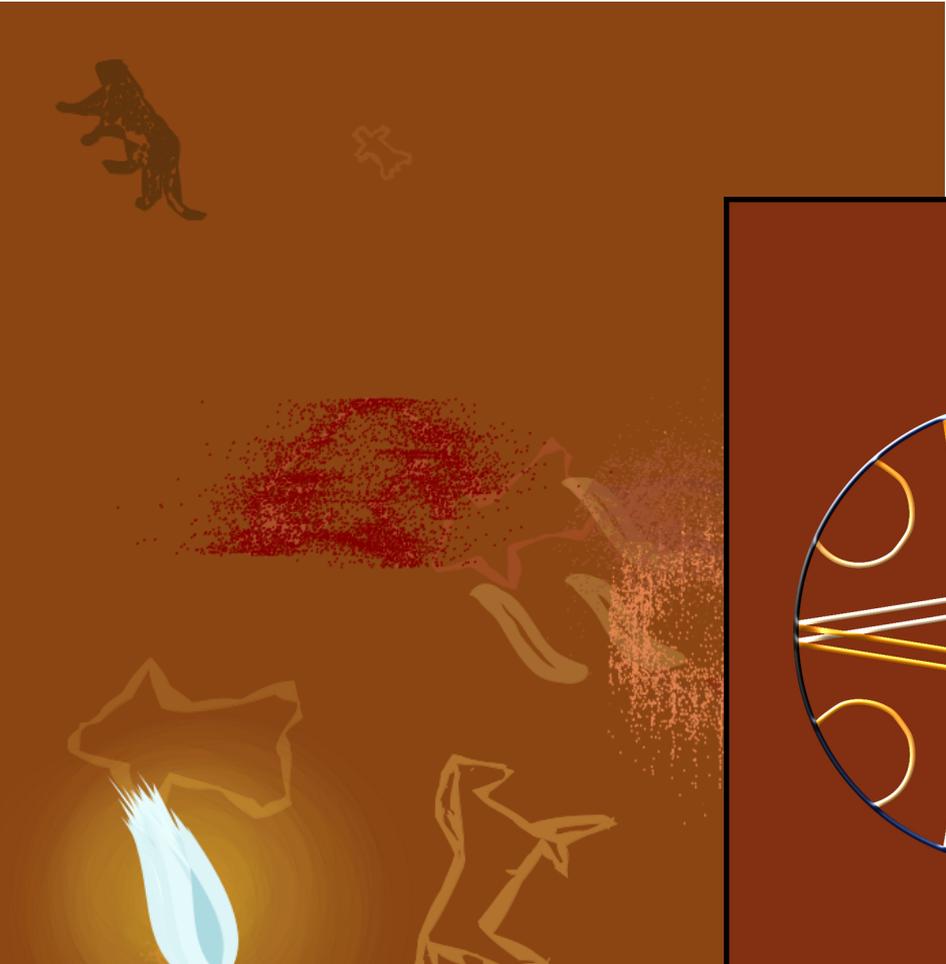
I can read and parse the SVG into my internal geometric shapes, and then play with it.

Here we do some space and path filling, plus various stylistic manipulations

Symbol fonts



RE



Colophon

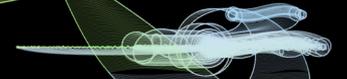
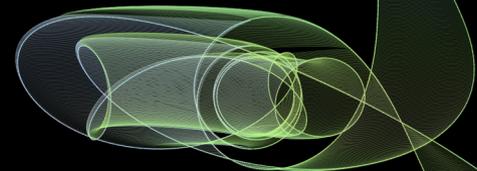
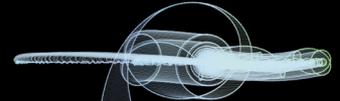
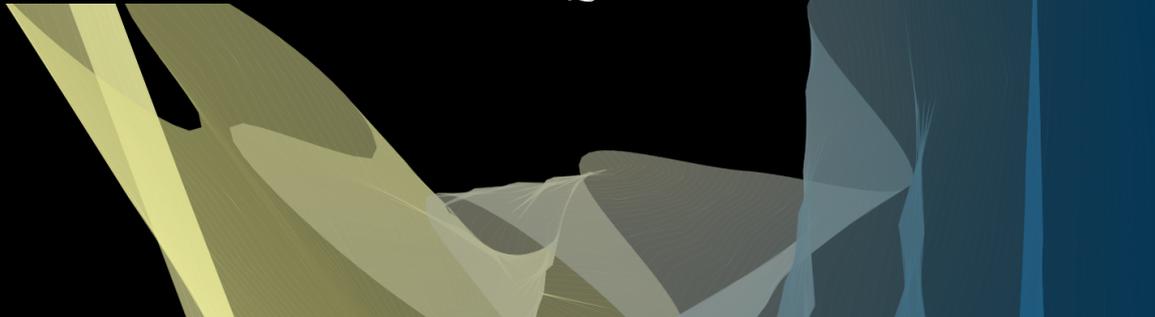
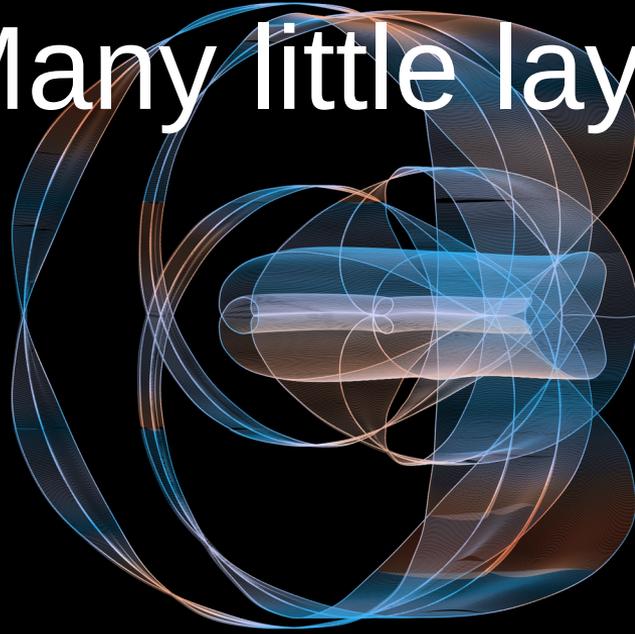
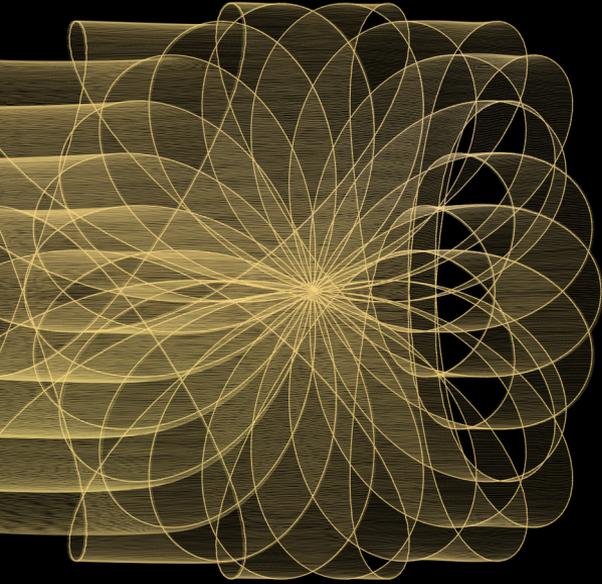
One font is particularly fun: Symbola, which includes an extensive set of emojis

Left: fake cave drawings, using path simplification and wobbling to give a more hand-drawn look

Center: where symbol intersects shapes, it reflects around their centers, including those reflections

Top: cross-stitch rooster emoji

Many little layers



Colophon

Take a path, make a companion path nearby, draw lines across from one to the other, except make them cubic edges.

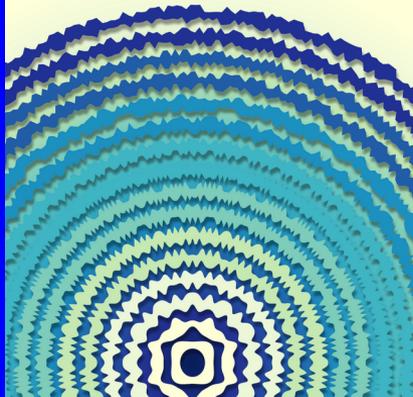
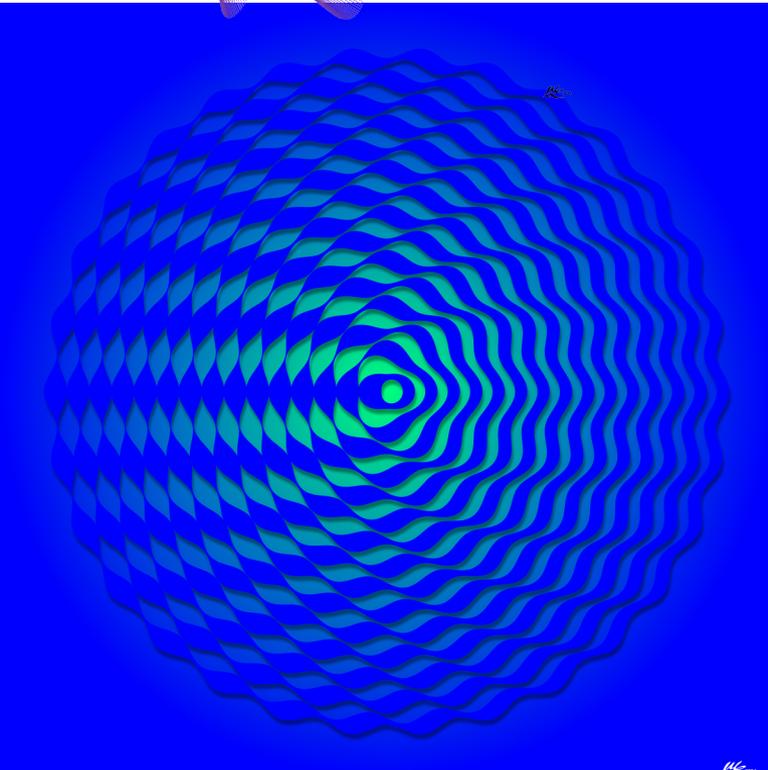
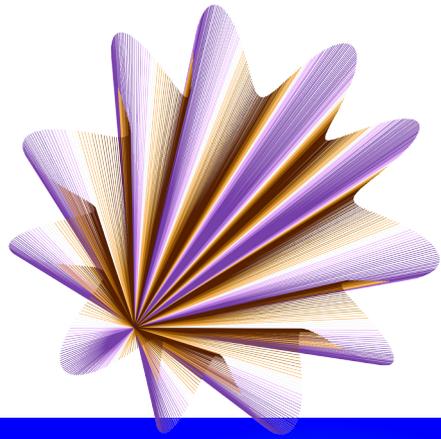
Make a lot of these little edges, almost transparent

Hilarity ensues

Rose curve, modulated torus knot, Starr rose, polynomial spiral

Similarly with many translucent triangles filling space between two curves

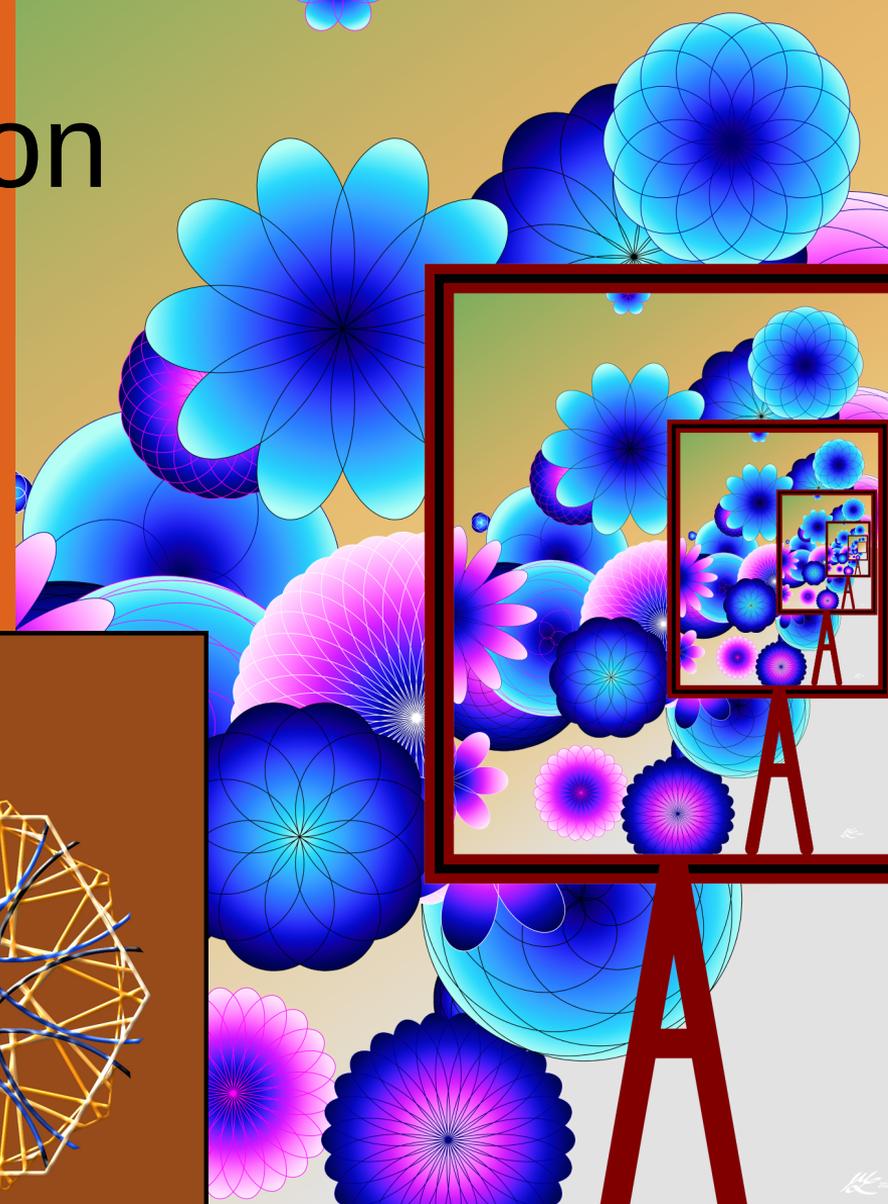
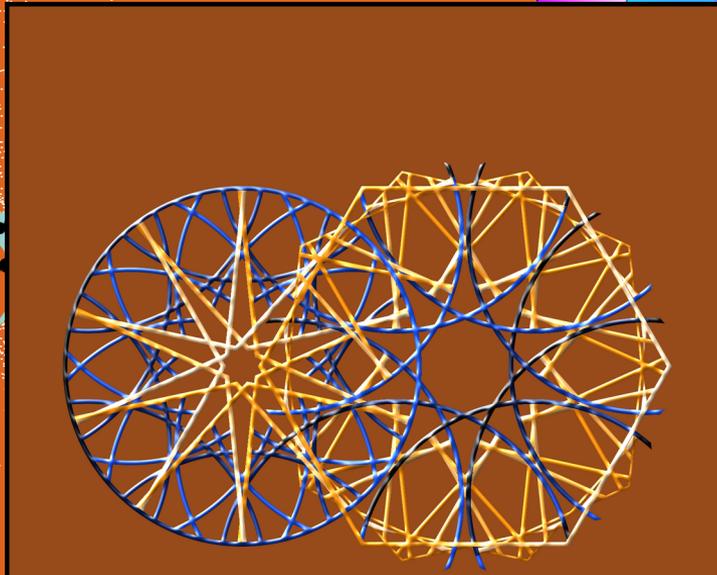
Trigonometry FTW



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Sequences of sines and cosines put to various purposes

Reiteration



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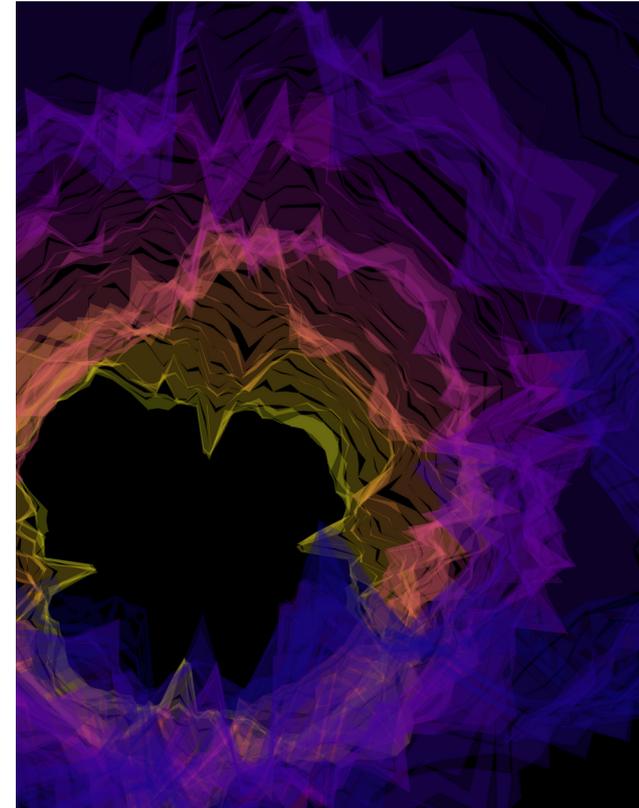
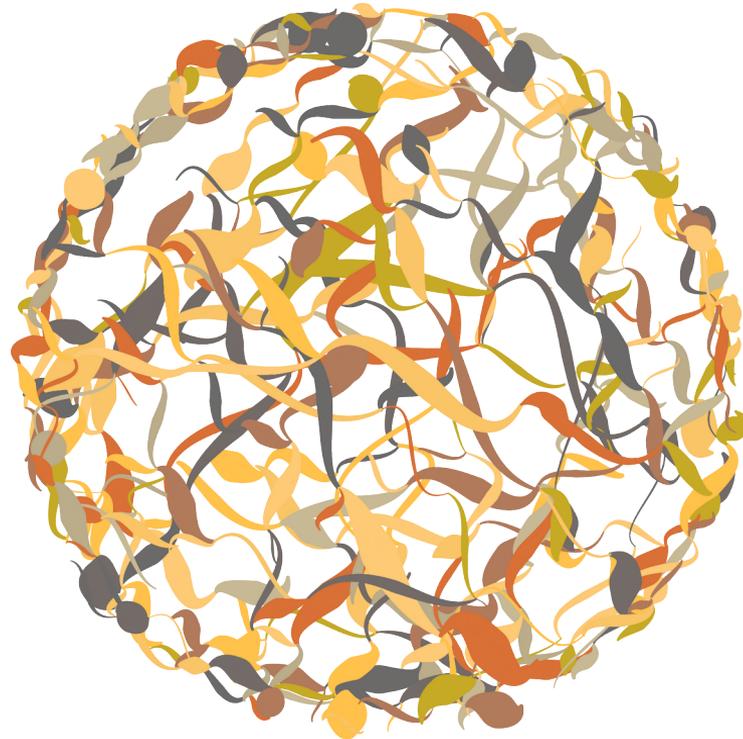
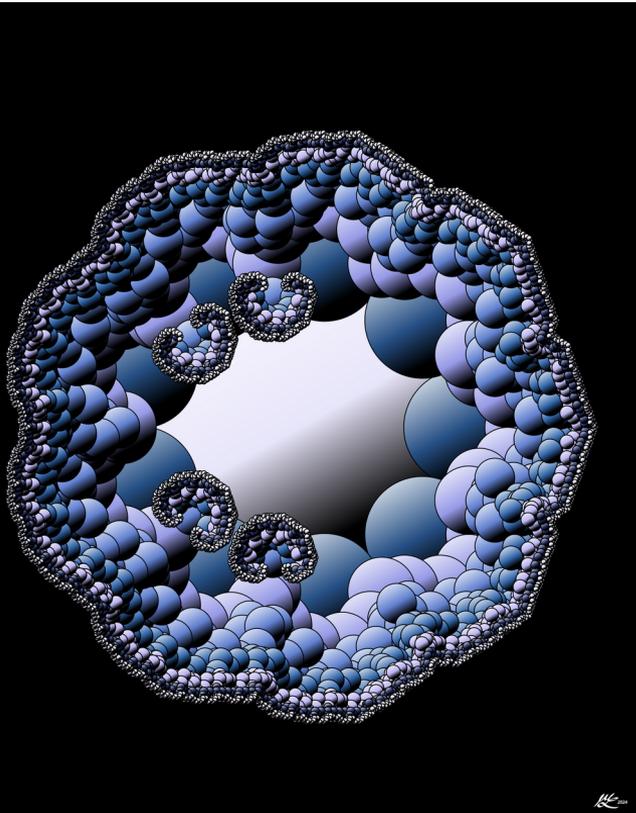
Reiteration, recursion, and repetition create interesting patterns and textures

Left: circles within circles within circles, line-filling

Center: reflecting intersections

Right: Droste effect: random scene includes itself which includes itself which includes itself...

Growth



Colophon

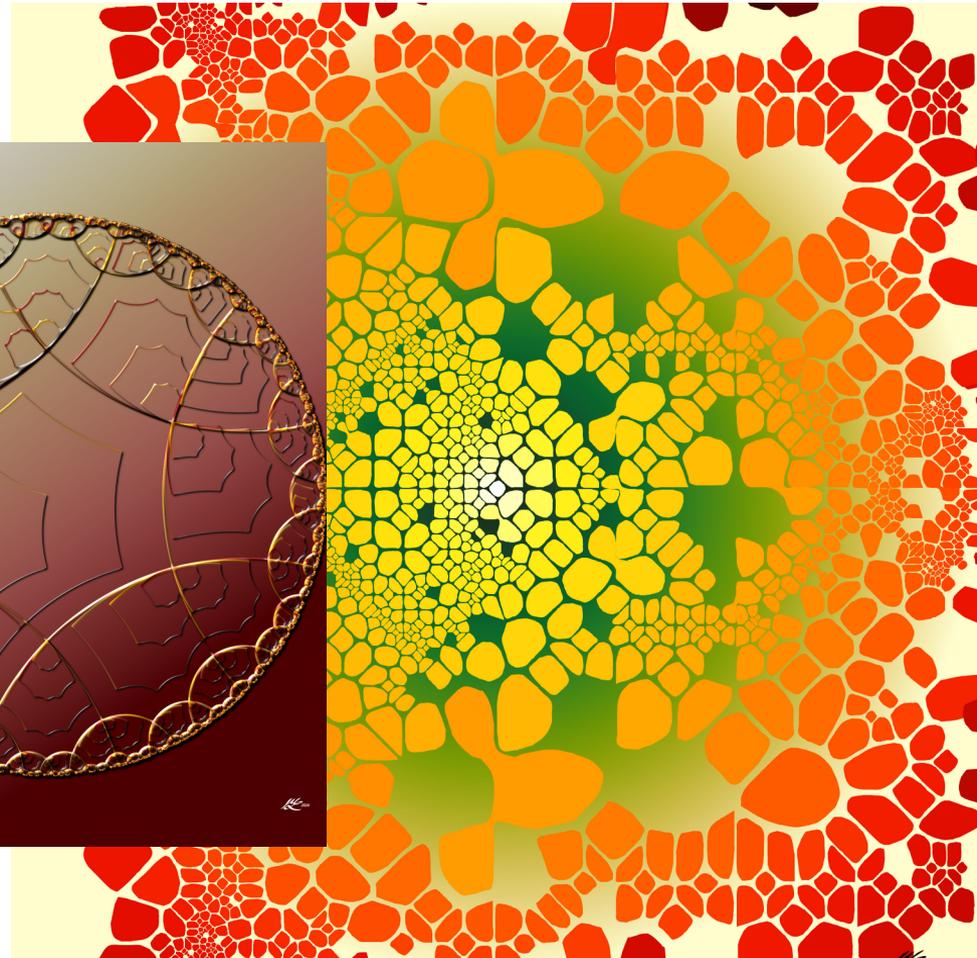
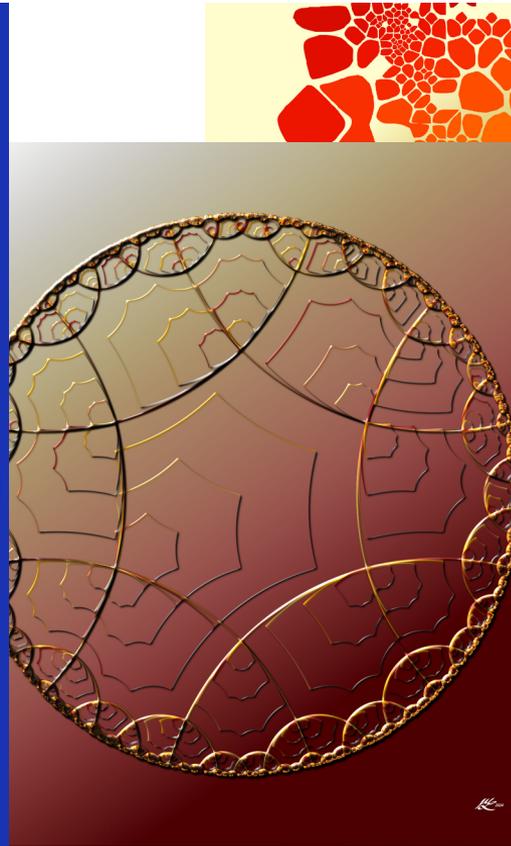
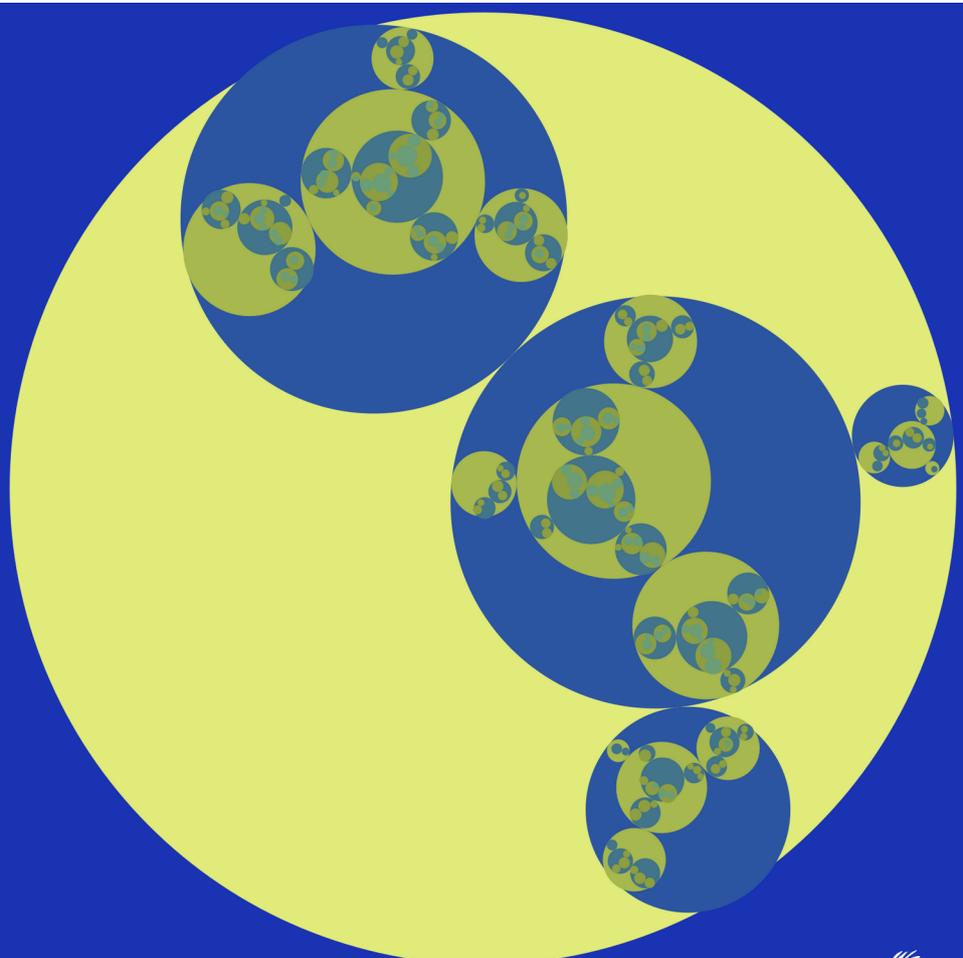
Growth algorithms create rhythms and textures by recursively applying to their own output

Left: circle tangent to circles tangent to circles

Center: branches of branches of branches, with an attraction/repulsion graph layout

Right: wobbly circle, growing wobbily; many translucent layers

Division



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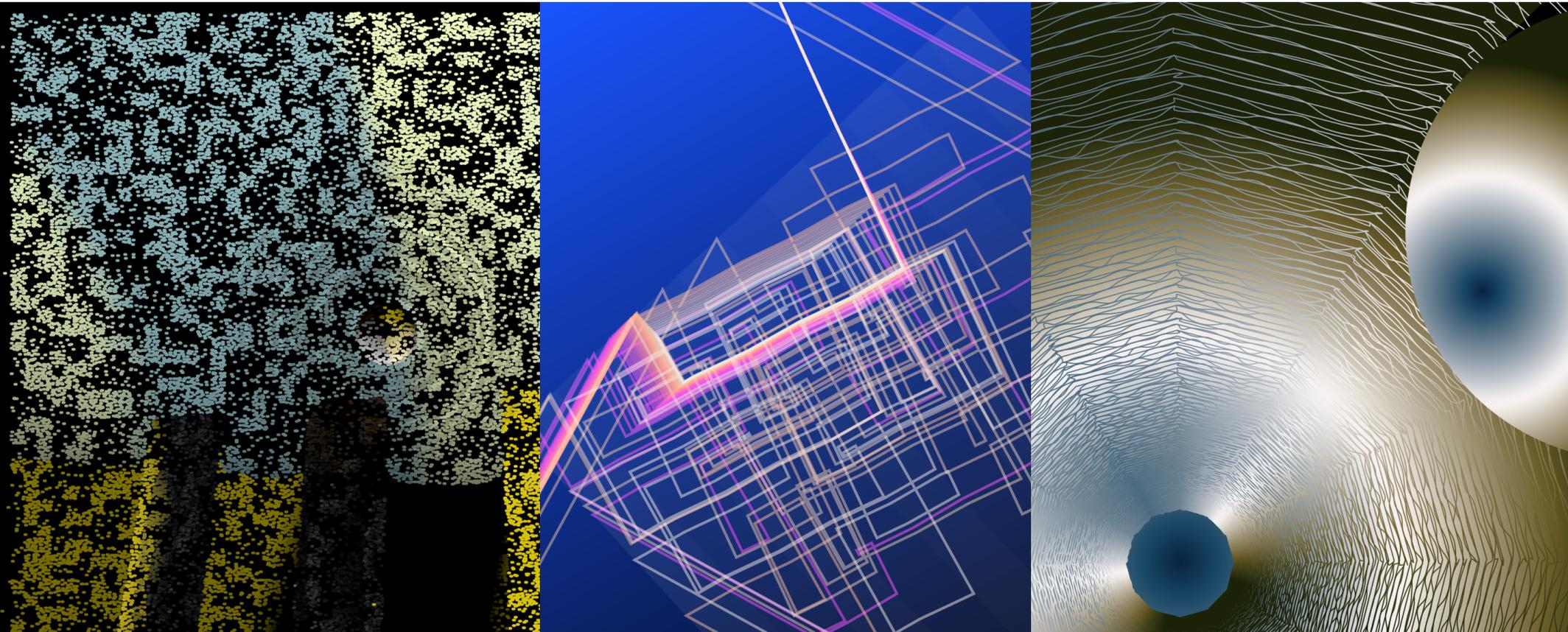
Division algorithms are the inverse of growth algorithms and achieve a lot of the same ends

Left: circles within circles within circles

Center: hyperbolic tessellation

Right: a test of quadtree implementation, with squishy fills

Revisiting old friends



Colophon

Sometimes I go back and revisit old projects, applying a new spin to them, or updating the implementation

Left: ray-casting from points chosen with dynamic Poisson disk sampling; the sampling was buggy here, but I like the texture that made

Center: Snell's law, with highly unrealistic Cauchy materials

Right: Simple wobbles around a central shape, but the adjustments of scale and the colouring give impression of depth

Fin

(bonus Islamic tiling)

