

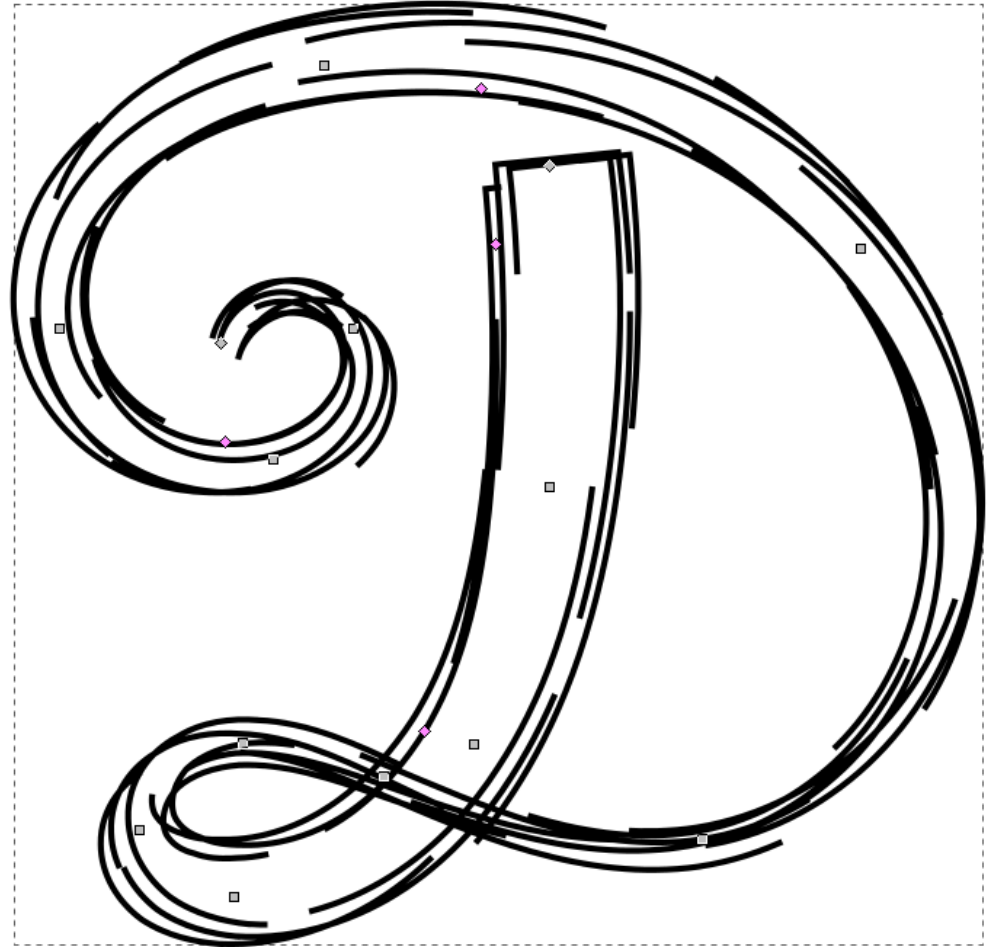


Variable stroke width in Inkscape



Outline

- Live Path Effects
- LPE examples
- Powerstroke



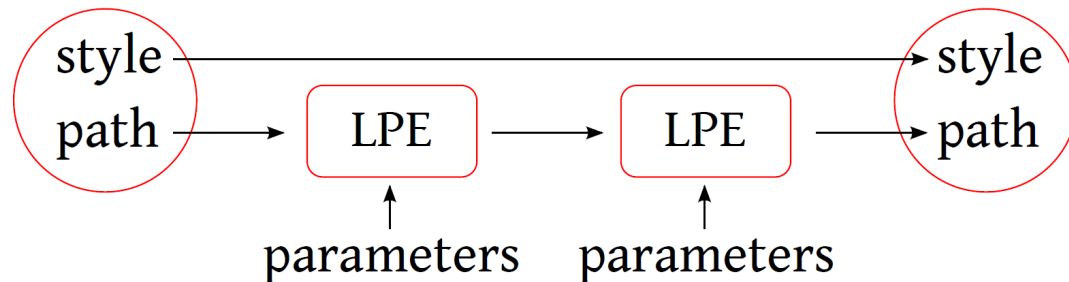
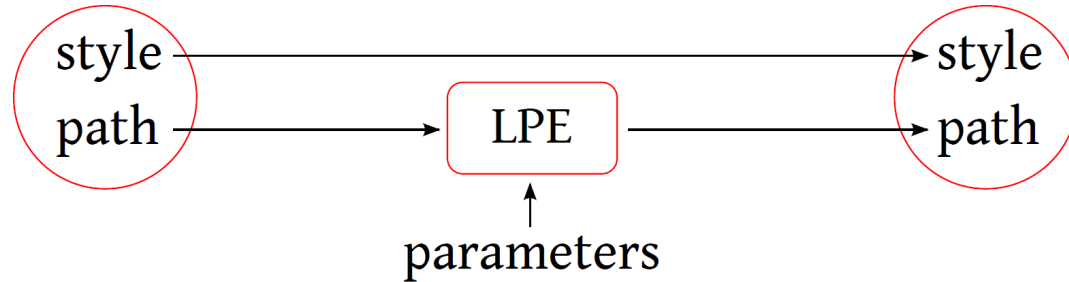


Live Path Effects = “LPE”

- Live on-canvas editability of non-destructive path modifications
- Since GSoC 2007 → Inkscape 0.46
- Mechanism
 1. Store original path in `inkscape:original-d` attribute in SVG
 2. Do math ← LPE
 3. Write result to the `d` SVG attribute (the normal SVG path data location)
- Other SVG editors/viewer will only 'see' the result after the LPE
- Live Math Effects
 - Heavy use of `lib2geom`
 - `lib2geom` workshop in the afternoon



Live Path Effects – Possibilities and limitations

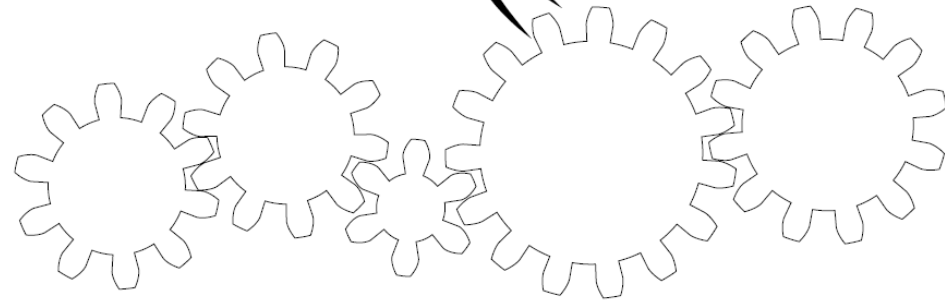
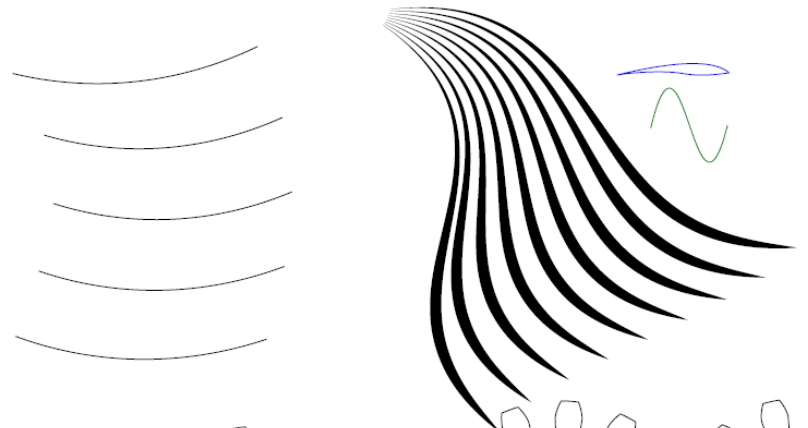
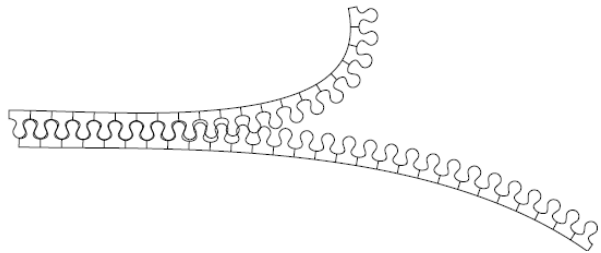
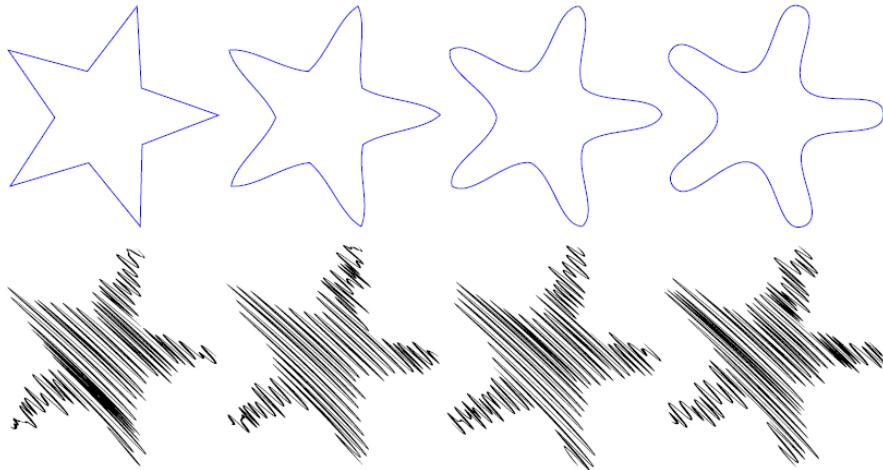


- Path output **only**
 - Style (color, gradient, etc.) **cannot** be modified by an LPE
 - For example, LPE Interpolate only interpolates path data, not colors
- LPE stack: effects in series (!!!)



LPE examples

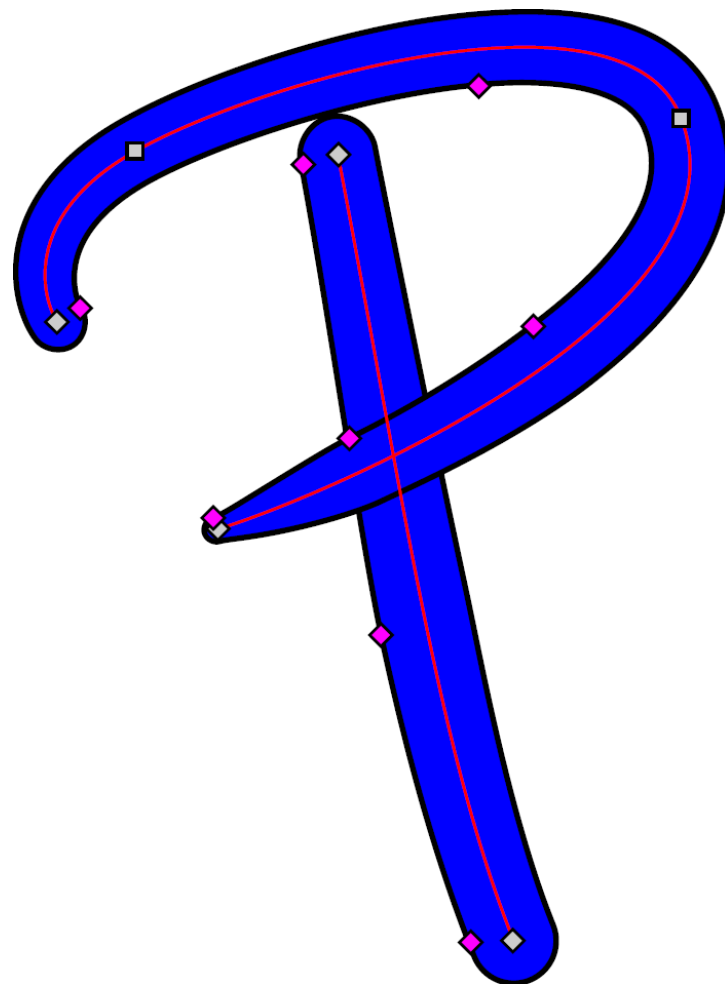
LPE





LPE Powerstroke

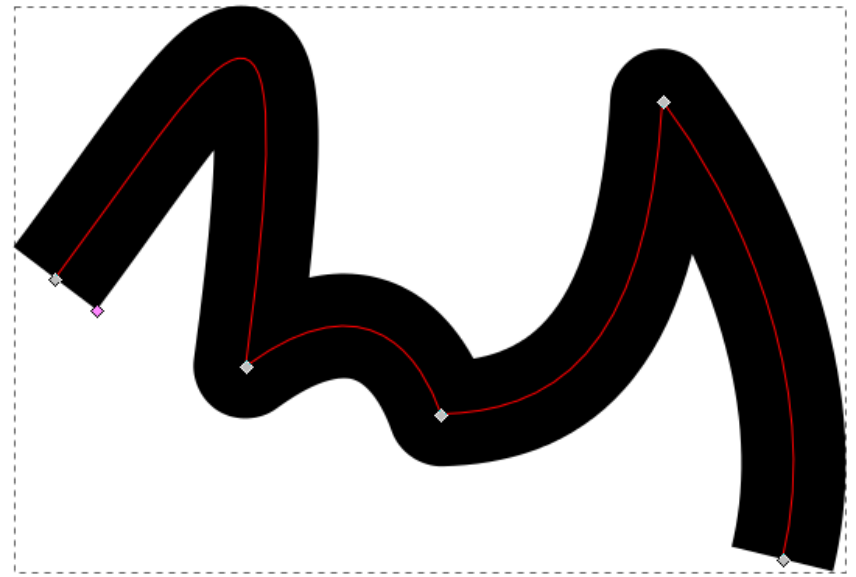
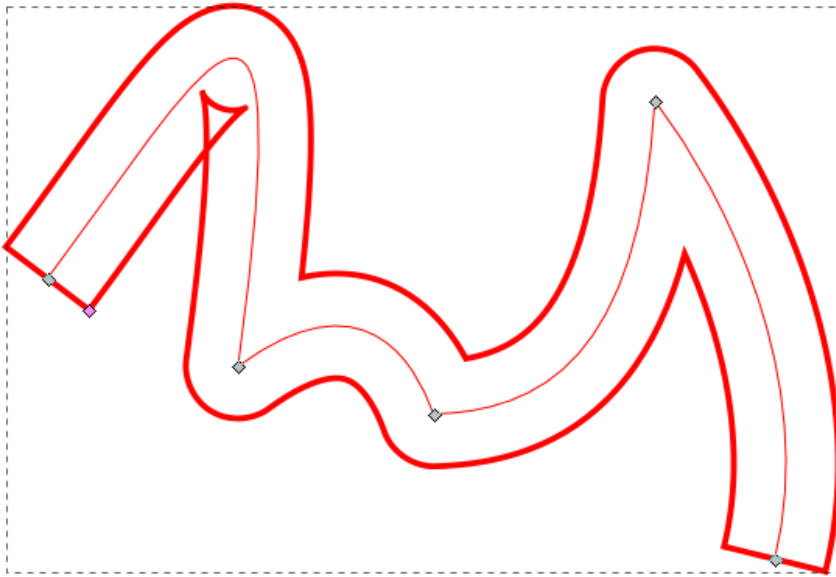
- Variable stroke width along a path
- Width is edited using the purple knots
- Stored in SVG as a list of (location, width) pairs
 - 0 , 5
 - 1.6, 6.3
 - 2.4, 7.3
 - 2.7, 6.4
 - 3 , 2.2
- Work in progress!
- To try it out: it is currently in trunk!





Powerstroke output

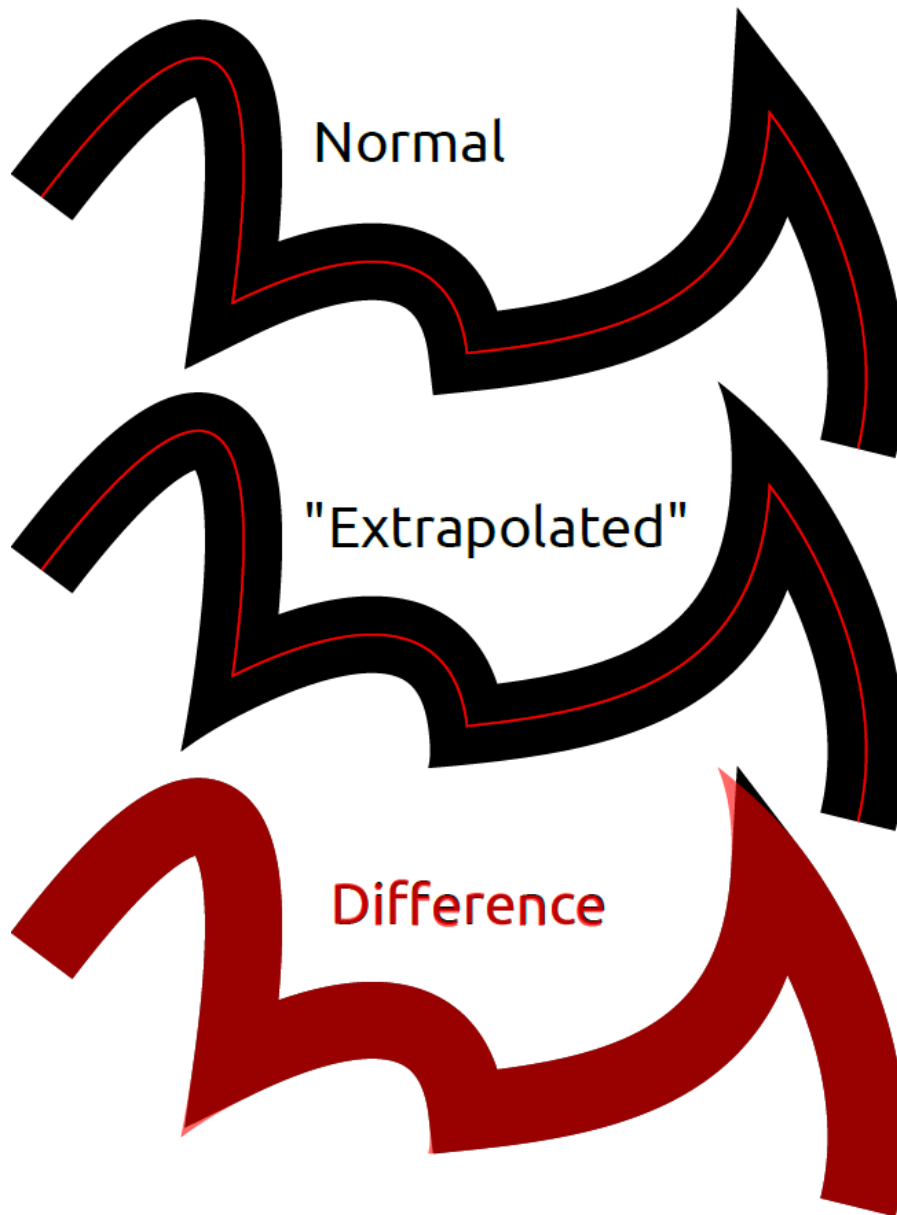
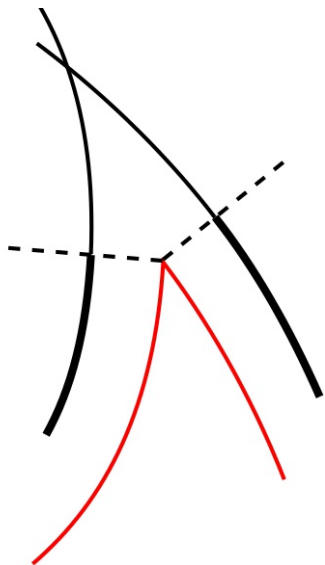
- Output is a path **outline**
 - **Filling** the result looks like a stroked path





Powerstroke – Joins

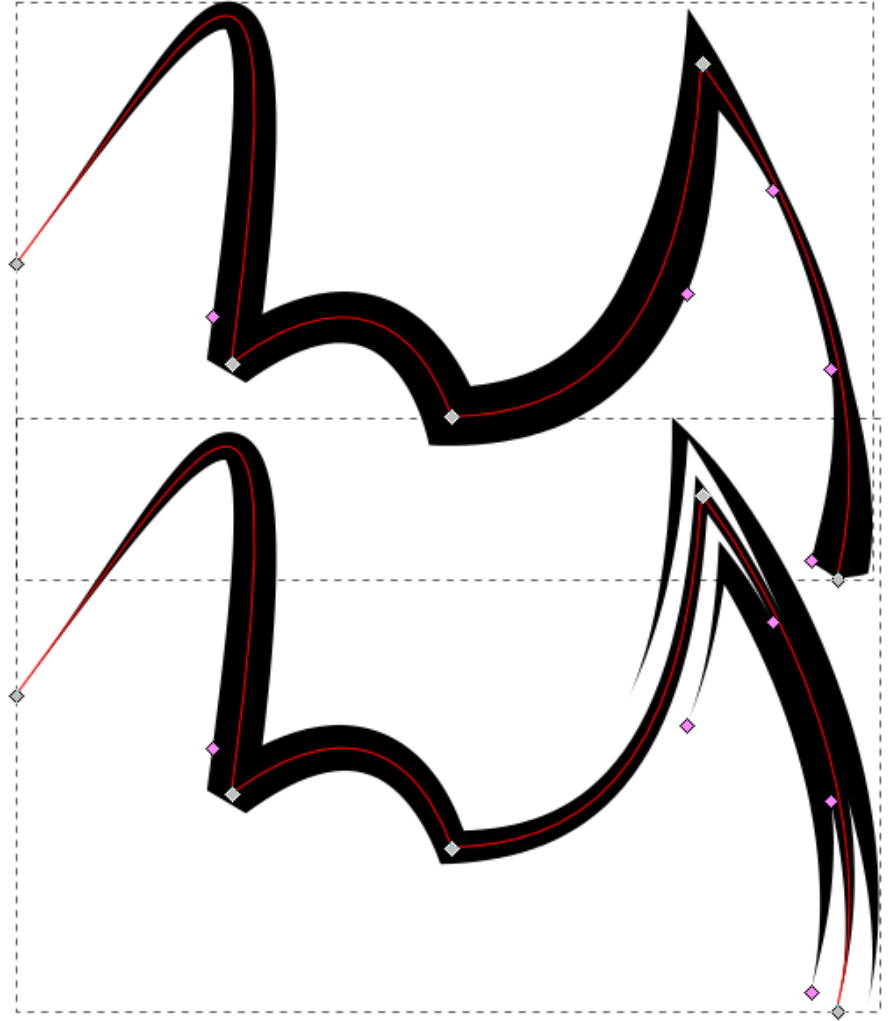
- SVG defines 3 types
 - Bevel
 - Rounded
 - Miter (a hat)
- Powerstroke adds 2 new types
 - Spiro (sort of rounded)
 - Extrapolated (sort of miter)





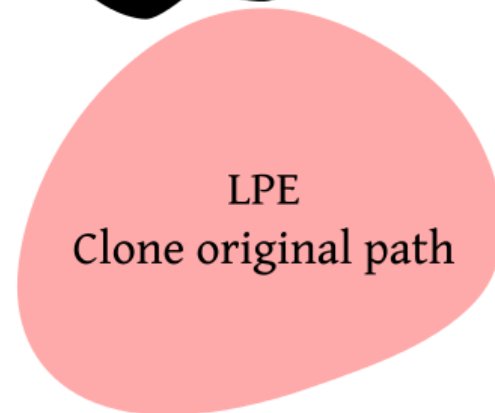
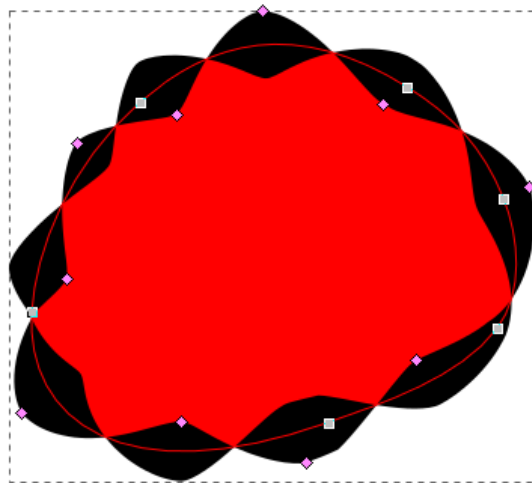
Powerstroke – Sorting control points

- Control points are sorted automatically
- Can be turned off for 'advanced' use





LPE Clone original path

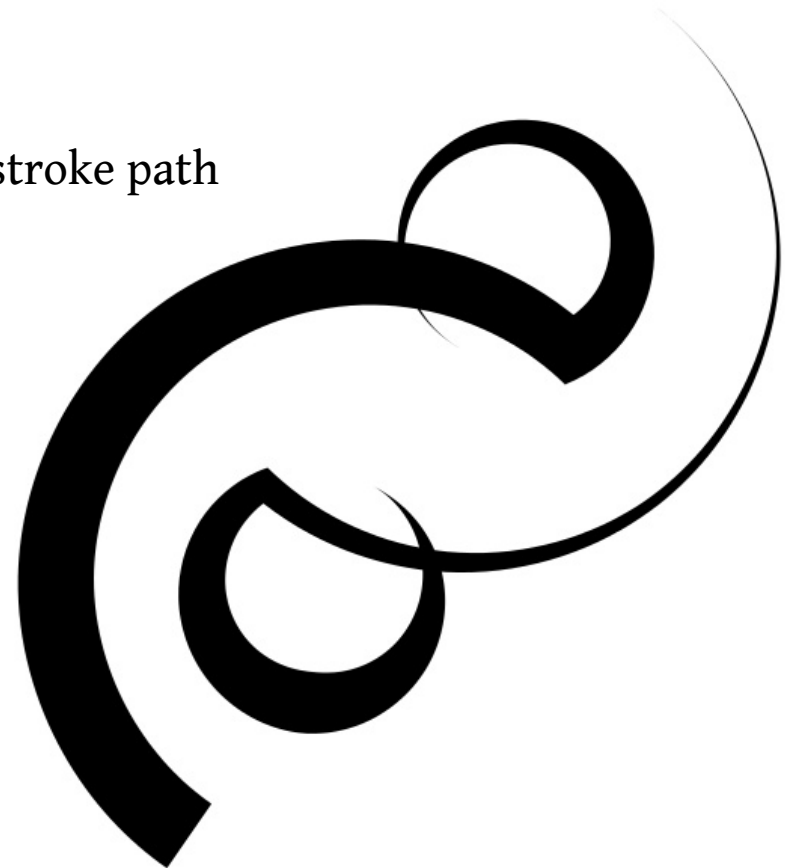


- Accompanying LPE to fill 'powerstroked paths'
- Outputs the `original-d` path from a referenced path
 - Ignores the `original-d` of the path it is applied to
- Clone can have a style independent of style of the original (not possible with normal clones)



Future work

- Improve the math
 - Fix outline for overlapping parts
 - Speed?
- Improve UI
 - (more) Preset parameter styles
 - Saving of user presets?
 - Calligraphy tool option to output powerstroke path
 - On-canvas control of more parameters
- Asymmetric stroke width
- ...? :-)





Power

Stroke

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