



Arc Script – An alternative writing tool script

## What is Arc-Script?

Arc-script uses the “Arc-pen”, a writing tool invented to explore alternative approaches to how writing text could have evolved.

**”It’s an imaginary writing system that evolved by using a tool with 2 points instead of 1”.**

## What is the Arc-Pen?

The arc-pen is basically a compass with fixed length. It could write in 2 main ways.

**Carving** : Using a compass with a sharp points on both sides, jab one end into the material and rotate the other to produce clean arcs and circles.

**Writing** : A compass already has a writing tool attached to one side, this has both.

Basically a standard compass is half of each. An arc pen has only 2 sharp points or 2 pens. One major advantage of this writing tool is that lines are all perfect and you don’t need to train penmanship skills much at all. Simply put “everyone has near perfect handwriting without practice”. There are very little motor skills required, tremors and shakes don't matter as much either.

## Arc-script rules

Such a tool can be used to write anything you want, especially if you just use one side, then it can do anything a regular pen can do. So we need some design rules to ensure we use the arc-pen to create a writing system unique to the tool.

1. Continuous contact – for each character the neither pen is ever lifted. If you allow the pen to be lifted then all you have a is regular pen that can make nice circles and double lines.
2. Both points always engaged – If you allow lifting of one side then the possible characters and designs become incredibly numerous. This is not a bad thing, but if you disallow this then it restricts the number of possibilities and creates a set of fundamental symbols that represent and highlight some interesting underlying principles of the tool, geometry, and visual differentiation.
3. Only one point moves at a time – allowing the both points to slide at the same time creates double lines and a huge number of possibilities, we want to restrict ourselves to just arc lines so that the script can explore some interesting and unique principles and patterns.

# The Arc-Pen

The arc pen is constructed by modifying 2 pens so they have spring tension on retractable tips. This is important because you want to apply more pressure to the pivoting side while still letting the moving side make full contact.

If you just strap 2 pens together then you will find that if you apply pressure to one side then there is little or no pressure on the opposite side and it will have gaps in its arcs. If you don't apply enough pressure to one side then the pivot point is not strong enough and it slips.



I made a video which demonstrates and explains all this much better, I highly recommend watching it. There are many visual explanations which are much easier to convey through video.



Arc-Pen Youtube Video : <https://youtu.be/IFVKSOC6iCY>

# Characters

To help further limit the number of possible characters, I will add a few more rules :

**No double-back or retracing lines.** Lines can cross, but no overlapping.

**Max 4 Strokes.** No switching the point of rotation more than 3 times per character

**Length does not matter.** The length of the arc does not define a character.

**Rotation and mirroring does not matter.** A rotation and/or mirror are the same character

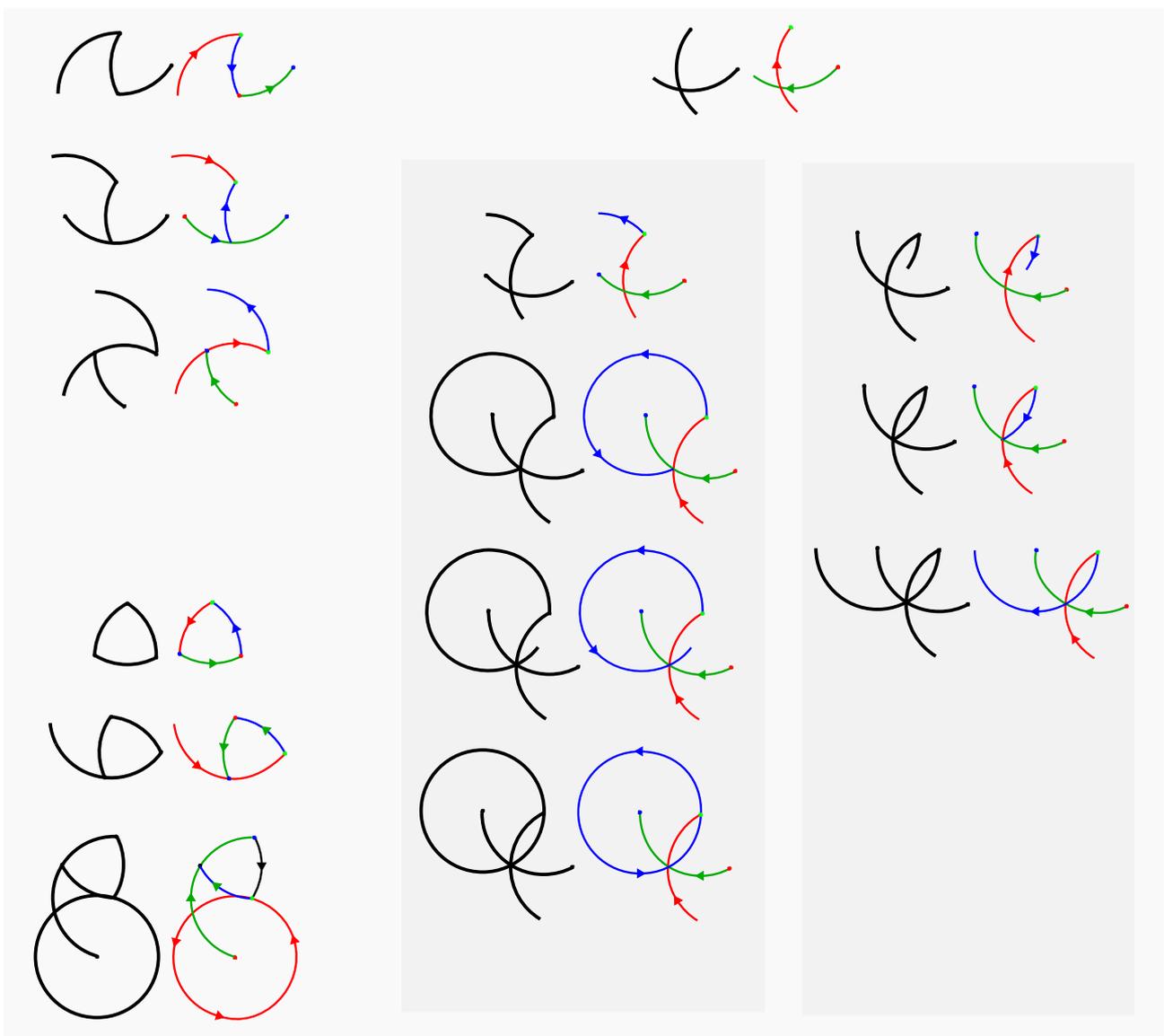
\*A “stroke” is defined as a an arc drawn until the point of rotation is switched.

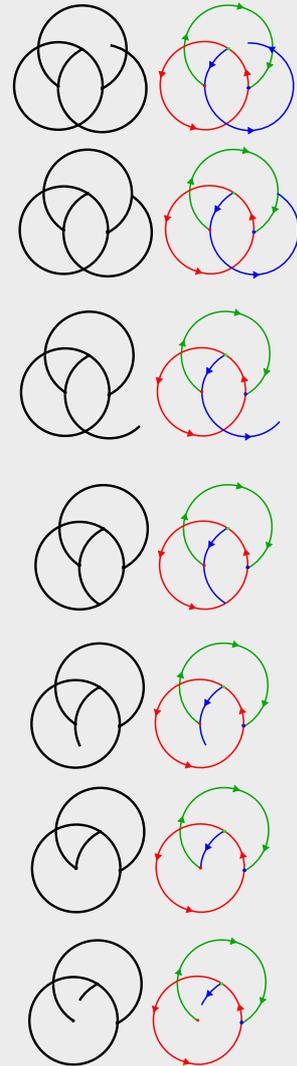
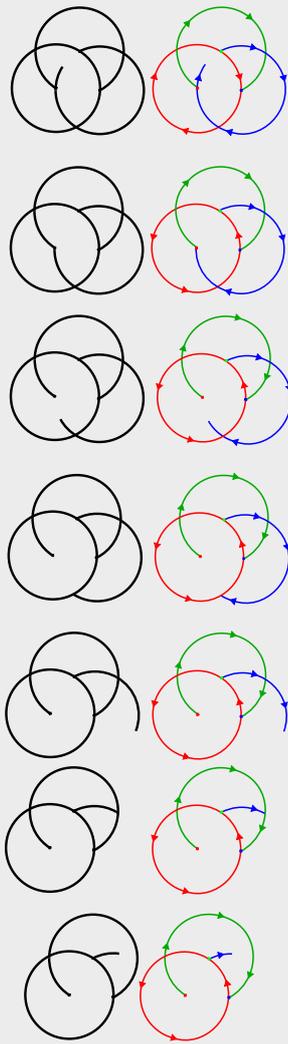
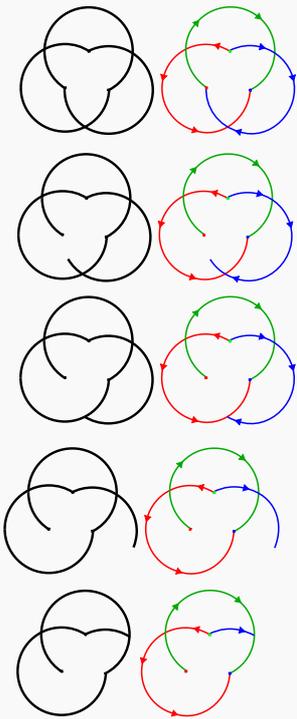
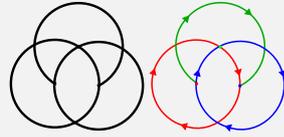
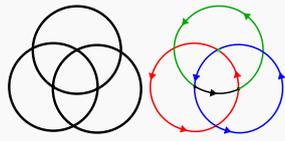
\*\*An arc connecting to or crossing another arc defines unique characters, not length.

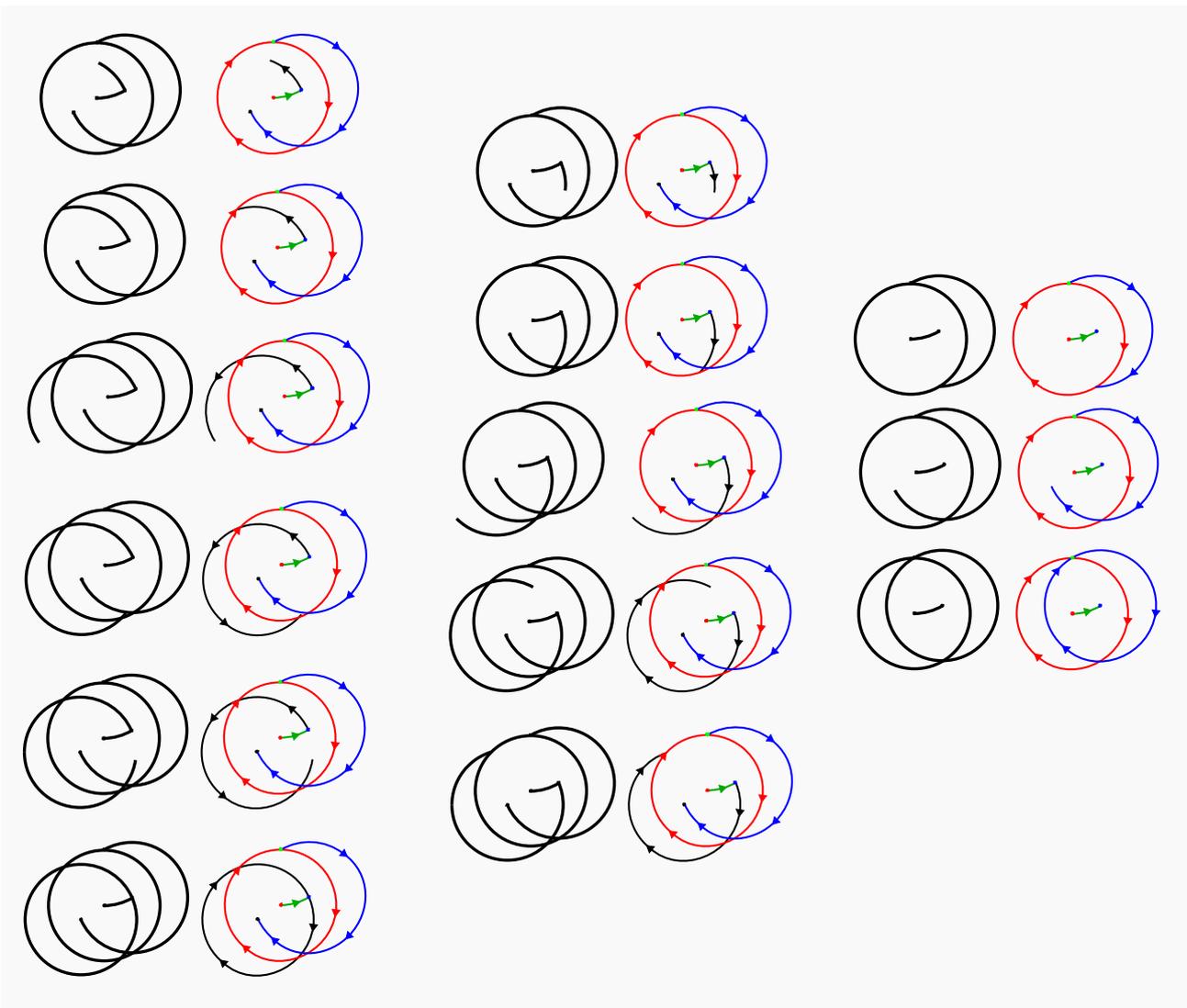
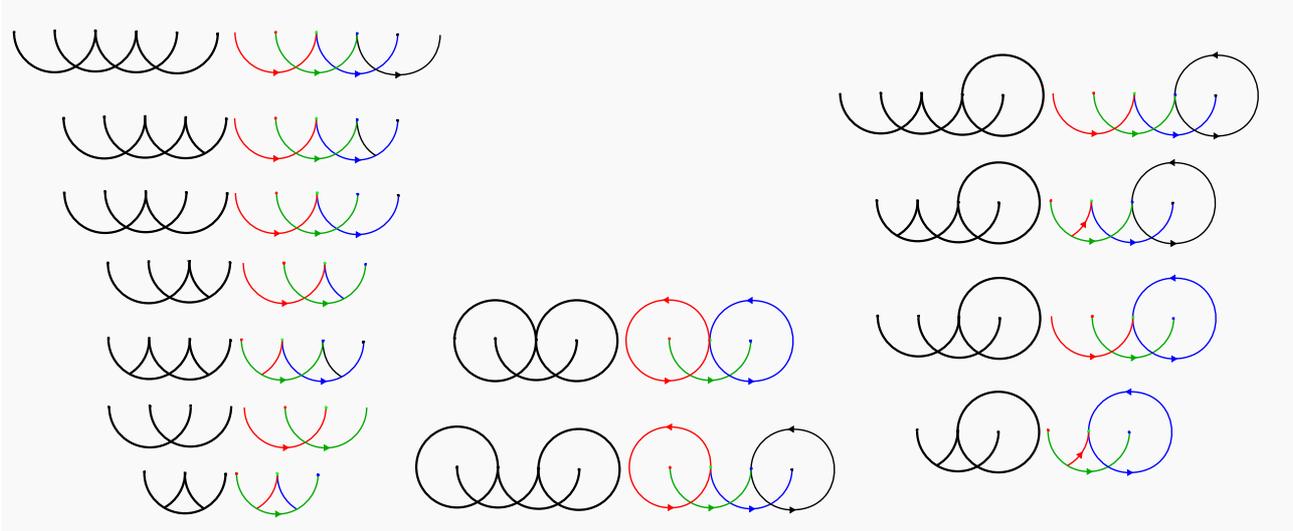
Making the symbols immune to rotation and mirroring is an interesting quality, it means it doesn't matter what orientation you read from, if viewed from behind or seen as reflection in a mirror, the letters never get confused. This could be interesting for those with dyslexia.

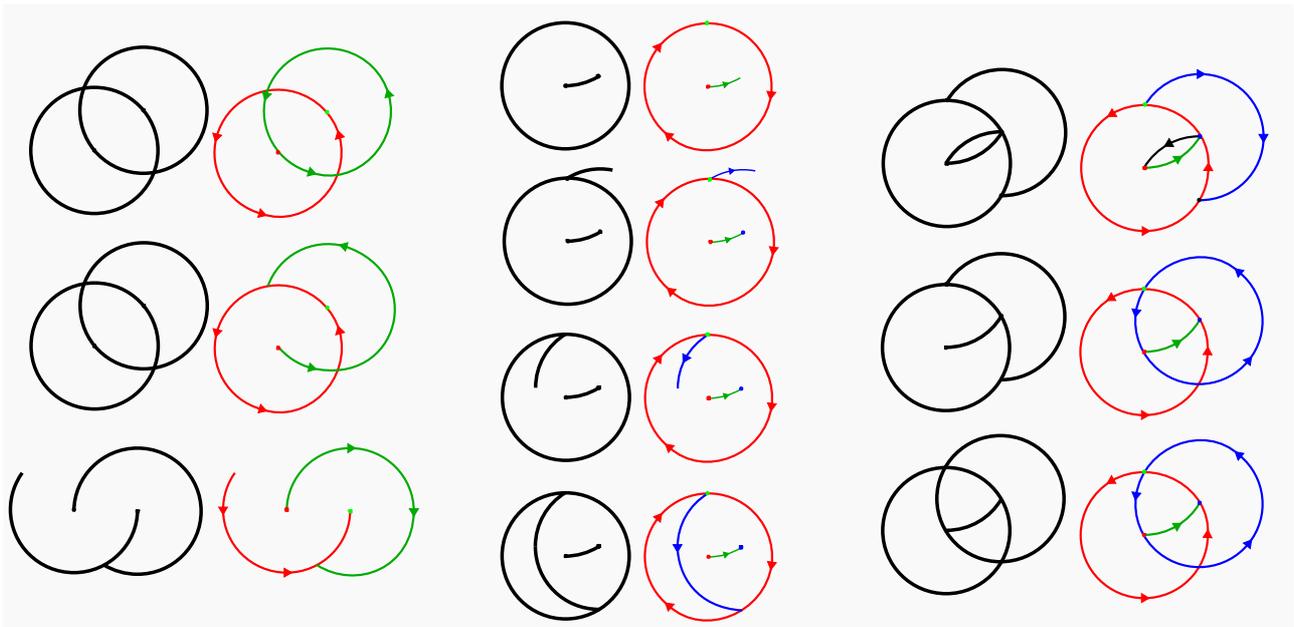
With these rules here are characters that can be created (I did not include every possible character, some I omitted because lines were too close to hard to distinguish. I also probably missed some)

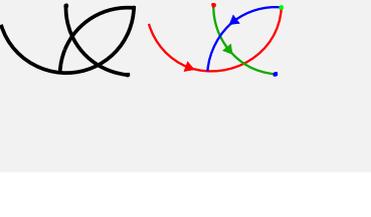
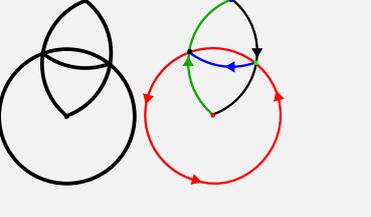
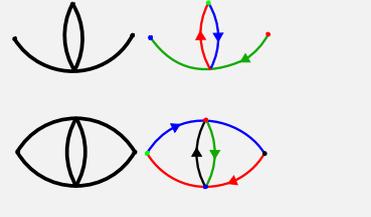
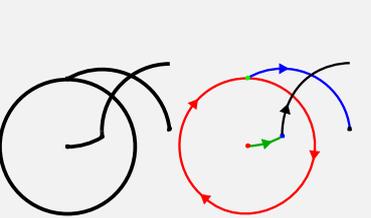
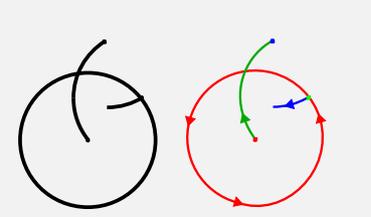
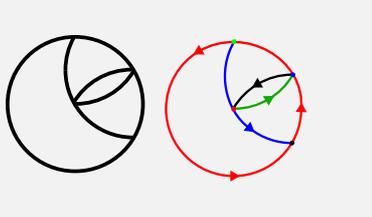
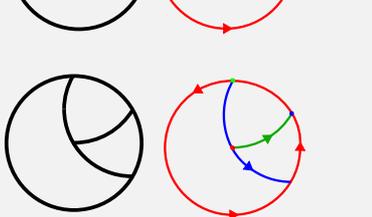
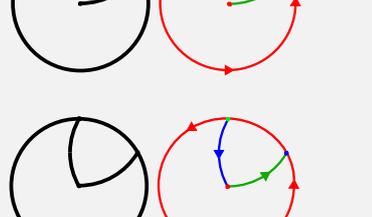
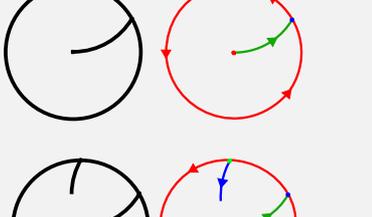
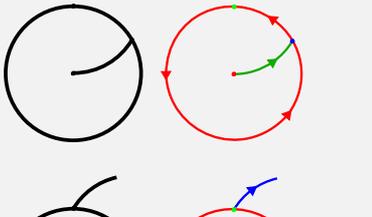
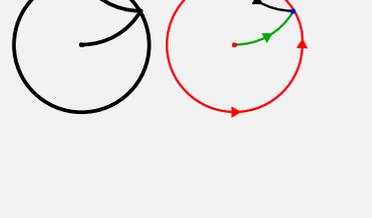
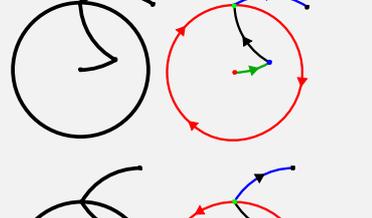
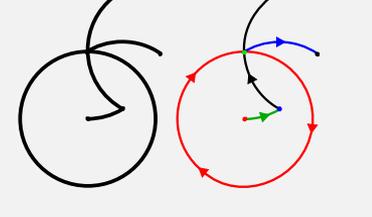
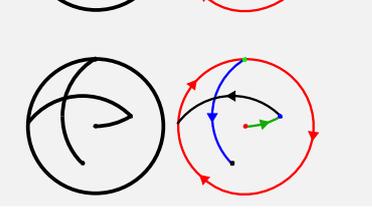
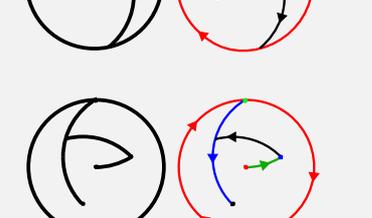
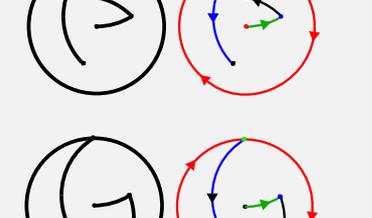
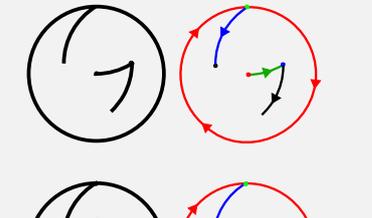
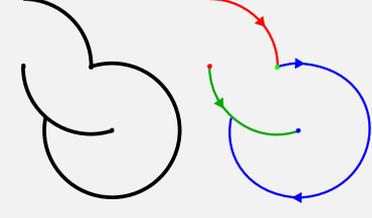
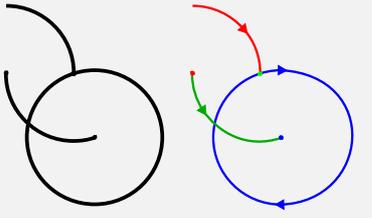
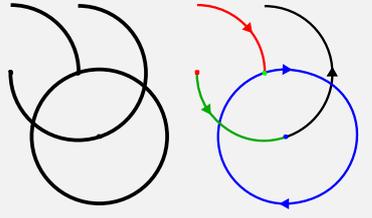
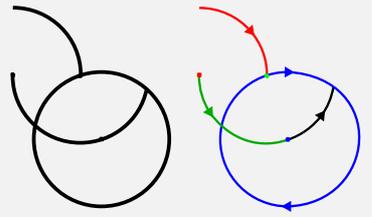
First stroke **RED**, Second stroke **GREEN**, Third stroke **BLUE**, fourth stroke **BLACK**











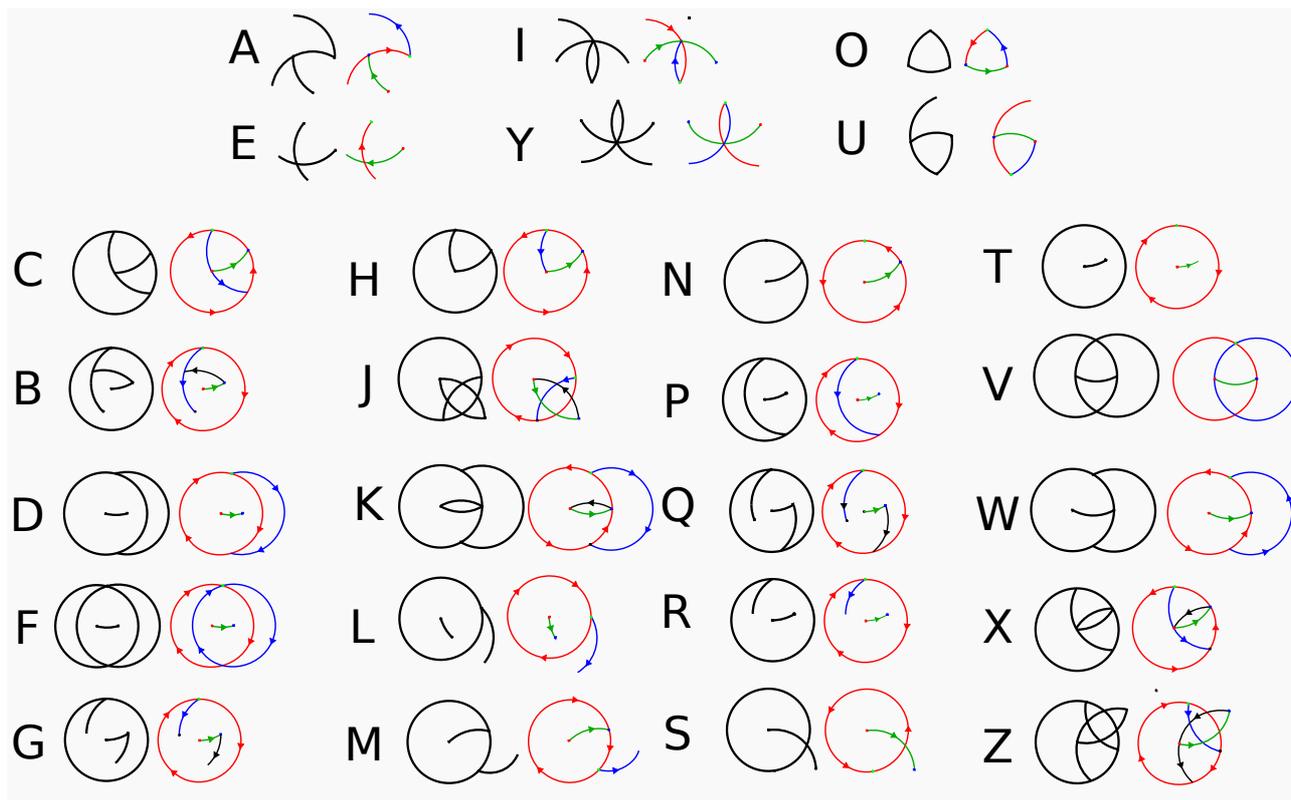
# Usage

Arc script can be used for many types of writing systems. Alphabet, abjad, syllabary, logography, etc..

With this restricted set it is easily turned into an alphabet, and possibly even abjad or syllabary. It's not impossible to imagine it being used as a logography, but I imagine some of the rules I used here to restrict the number of characters would have to be relaxed, logographies usually need many more characters.

It could probably make a decent featural writing system. The arcs, circles, and various shapes can make good representations of mouth, tongue, throat locations and other components. (A featural writing system is one where the symbols are iconic representations of the physical production of the sounds, eg. mouth shape, areas of throat involved in sound, etc..)

For now I will just create a simple English alphabet by choosing some characters I consider relatively easy to distinguish and write.



I made all the vowels characters without circles and consonants all have a full circle.

I assigned the symbols roughly based of number of strokes and frequency of letter usage in English. The most commonly used letters (most common letters in order are ETAOINSRH....)

Symbols could also easily be group by phonetic similarity, but I will not go into featural design in this document. This alphabet is designed to use a restricted set, featural may be best if not restricted.

