# *1.4 Written Response — Draft 2*

As a designer playing with spirograph for a week, the sensitivity and complexity of it overwhelmed me. The precision of the tool and the complex patterns it forms were difficult to achieve without making any fault. At first, I thought it wouldn't be so hard because I remember playing with that back in childhood. Now, with my experience in design, it will be as easy as one-two-three, but the spirograph requires an incredibly steady hand and good eyesight or absolute concentration. And you must know some math to use the correct pieces to make specific shapes. It's a delicate interaction of motion and geometry together.

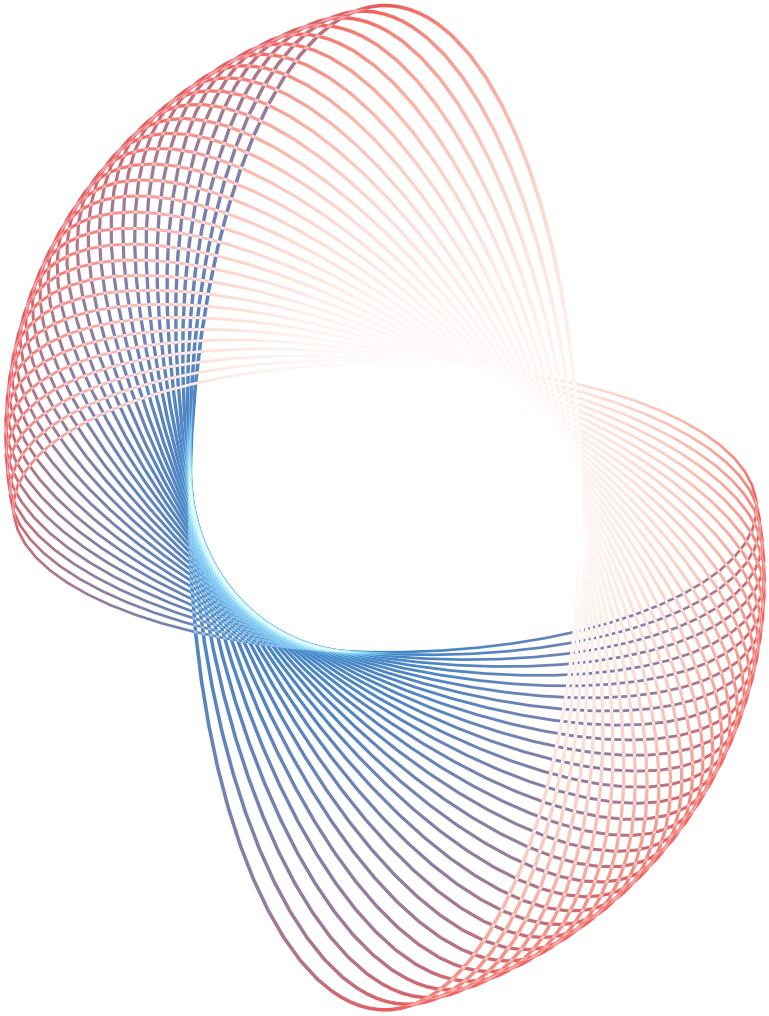
This whole adventure left an impact on me, realising how much patience and precision a design requires. Technically, keeping consistent pressure and alignment would be very hard. Slightly faltering or slipping would completely ruin it.
Spirograph tends to use creating symmetric, detailed and visually appealing outputs. It's some form of predictable and surprising all-in-one design.

Spirograph in graphic communication design?
It can be seen as a bridge between art and mathematics, bringing a distinctive aesthetic that combines precision and symmetry. We might see some pattern designs or branding works done or influenced by spirographs.
The tool might be outdated and difficult to use in daily design matters. Still, the aesthetic of spirographs has been adopted in modern digital design tools and software, influencing pattern creation in digital artworks and animations.

As stated in the book Adhocism, "Nearly all creations are initially ad hoc combinations of past subsystems." The spirograph is an example of this. It's a spiral drawing tool that combines the compass and gear wheels. I have to give it another extent by merging this tool with digital tools. Instead of drawing with a physical pen and paper, I used a digital pen and digital canvas to make the shape creations. And while playing with the spirograph over the two weeks was tiring and delightful. These lines and shapes following one another call for curiosity and unique pleasure. Moving to the digital space, I made another combination and tried to record the movement of the pen to attribute to the drawing process, by taking the spirograph into the animation program. As I stated last week, to get the desired shapes with the spirograph, one would have had to use the right gears and holes, which requires a lot of mathematics. The same for animation programs, the continuation of what you draw and to make it flow smoothly speeding up, slowing down need different mathematical calculations like easing value and the overall speed, which can determine with the frame rate.

When so much mathematics is involved, I cannot overlook the book of Philip Ording "99 Variations on a Proof". His book also aims to challenge that conception of mathematics. It gives rise to some basic questions. Where did 'the' mathematical style come from? How has it developed with the growth of mathematical knowledge? What opportunities does it open or foreclose? What are its expressive, cognitive, and imaginative possibilities?

To conclude, my approach enriches the design process, by retaining the authentic feel of the physical tool while embracing the creative potential of digital mediums. Merging traditional techniques with modern technology opens up new avenues for artistic expression, echoing the idea that a single concept can unfold in numerous ways when approached from different angles.



References:


- Charles Jencks and Nathan Silver, Adhocism: The Case for Improvisation, [1972] 2013
- Ording, P. (2019) *99 variations on a proof*. Princeton: Princeton University Press.