



PERSISTENT POINTS: BETWEEN THE POSSIBLE AND THE IMPOSSIBLE

*A line is breadthless length.*¹

Invisible yet infinite, to see or draw a line is impossible, according to the theory. However, we can draw representations of lines: lengths of sparse width that might extend toward infinity, at least in theory: lines can extend indefinitely in any direction. How is it, then, that we can build an infinite set of objects using a concept that has no starting point or end?

On a plane, we might imagine straight, downward lines, lines from side to side, and lines tilted any which way. Vertical, horizontal, and inclined lines ready to interact among themselves—whether they intersect or not. If two lines never intersect, we call them parallel. If they intersect just once, they're transversal and form an angle. If they touch more than once, then they actually touch at every point and constitute exactly the same straight line. However, even though only these three options exist, with more than two straight lines, our options multiply, allowing a variety of arrangements: patterns with transversal or parallel lines, or parallel *and* transversal lines—lines that can create shapes, angles, and areas.

And what about lines that aren't straight? We can draw continuous curves, in never-ending movement, keeping our pencil glued to the page. Here, another array of infinite options unfolds. Adopting a multitude of shapes, curves can intersect themselves, take turns, close in, and make shapes, like circles. In fact, a single curve can cover the surface of a square. Unlike straight lines, a curved one can interact infinitely. Two curves might never intersect and still not be parallel. Or they might intersect just once, twice, a thousand, or infinite times without constituting the same curve.

It's hard to imagine that with just one length with no width, we can build just about anything the eye can see, or even that which we can't even conceive—we might catch a glimpse of what it means to shift toward other spaces and different dimensions. **MM**



Notes

¹ *Euclid's Elements*, Book I, Definition 2.

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