we are unable to say whether or not the possibility of a fourth perpendicular is reasonable. Indeed, we need not concern ourselves with the question of its existence or non-existence.

The second method of study and the one which anyone may follow, is the method of analogy; that is, by comparing and contrasting three dimensional figures with two dimensional, then passing from three dimensional to four. We may gain a deep insight into the geometry of four dimensions by this simple process of analogy, which, while it proves little, still to some extent satisfies the proving sense. We will now carry out this method in one or two simple cases.

Suppose a point is moved a definite distance, say four inches, in a straight line, whose ends may be called terminal points, of which we now have two. As a result we have doubled our number of points and obtained a line. Now let the line move perpendicular to itself, four inches, forming a square. The ends of the lines, or terminal points, have, by their initial and final positions, given us four points, the corners of the square, where the lines meet in pairs. Also, these terminal points have generated two lines, which together with the initial and final position of the moving line, give us four lines or sides. So we now have four lines or sides, four points or corners, and one square. Next let the square move perpendicular to itself four inches, giving us a four-inch cube. The corners of the square or points give us by their initial and final position, eight points or corners, where the lines meet by threes. Again these four corners of the square, by their motion, generate four lines, which with the initial and final positions of the sides of the square, give us twelve lines or edges. Finally, the four lines of the moving square generate four square faces, which, with the initial and final positions of the square, yield us six squares or faces. So we now have one cube, six square faces, twelve lines or edges and eight corners or terminal points. What will we have if we move our cube four inches perpendicular to itself, i.e. in a direction perpendicular at the same time to all of its faces? As before, each corner of the cube by its initial and final position yields sixteen corners or points where by analogy the lines meet by fours. Also, the eight corners by their motion generate eight lines or edges, if we may now call them so. So that we have with the initial and final positions of the edges of the cube, 32 lines. Also