RESTORING THE "ME" TO GEOMETRY

by

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In this second article of an important new series to suggest new explanations of the UFOs, our contributor considers the significance of the fact that true Geometry (non-Euclidean) with the " me " in it is based upon movement.

WHILE HEADMASTER of City of London School in 1884 an English clergyman and writer named Dr. Edwin Abbott had a small book published called *Flatland: A Romance of Many Dimensions*. It attracted little attention at the time. Dr. Abbott was particularly noted for *A Shakespearean Grammar*, several books on Francis Bacon, and some theological works. He had written some excellent school books for children. *Flatland* was regarded as a little *jeu d'esprit* of no significance, although the *Spectator*, after describing it as a work which " will be read with amusement," did have the grace to add that " the assumption of the author is worked out with wonderful consistency, and his mathematics are thoroughly sound."

We who are students of UFO phenomena realise how little " wonderful consistency " and " sound mathematics " count in any book which dares to present an unconventional theory or hypothesis. The conventional scientist can be as inconsistent and unsound in his mathematics as he likes—he will be forgiven and even applauded by the critics—but, as Oscar Wilde put it, " demur and you are dangerous and handled with a chain." The author of *Flatland* used the pseudonym " A Square," and in his little book he pictures himself as imprisoned in " Flatland " —a world of two dimensions—for presuming to teach the dangerous heresy that a world of three dimensions could possibly exist. Referring to Professor Eddington's *Space, Time, and Gravitation*, in an Introduction to the Sixth Edition of *Flatland* in 1950*, William Garnett wrote:

* Published by Basil Blackwell, Oxford.

When a great truth comes to light it is generally found that there have already been prophets crying in the wilderness and preparing the way for the reception of the Revelation.

I regard Dr. Garnett's words as one of the world's most fantastic understatements. Great truths have not merely been proclaimed, long before their " broad daylight " pronouncements, by a few isolated prophets (indicated by the term " in the wilderness ")—they have usually been chanted in chorus by crowds, sometimes by battalions, of writers and seekers after truth, for years, decades or centuries, before the Overlords of Scientific Wisdom have graciously consented to remove the plugs of prejudice from their ears. Garnett, in his Introduction to *Flatland*, says:

There are some mathematical minds which are completely satisfied by the results expressed in algebraical symbols of the analysis of a continuum of four dimensions; but there are others which crave for the visualisation of these results which, in their symbolic forms, they do not question. To many, perhaps to the great majority, of these, Dr. Abbott's sphere penetrating Flatland points the way to the clearest imagery of the fourth dimension to which they are likely to attain.

I am not writing these articles for the mathematical minds which Dr. Garnett describes as " completely satisfied by the results expressed in algebraical symbols." There are text-books enough for such minds, and they are welcome to them—for they leave their readers no wiser, if we count clear apperception and understanding

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as wisdom. Mathematical symbols have little relation to reality. I hope that my readers crave, as I do, for a " visualisation of results," although I am not prepared to say that I " do not question " the symbolic forms of the mathematicians. I suggest that we have had enough mathematical symbols to give us chronic mental indigestion for several life-times. If we are to make any progress in our understanding of other dimensions we shall certainly not do it by entangling ourselves in increasingly abtruse and complex mathematical symbols, but as the result of an increasing clarification and ultimate simplification of our concepts. Abbott's little book was a step in the right direction. He used few mathematical expressions, although he took the highest honours in mathematics at his college. *Flatland* pictures intelligent beings whose life-experiences are entirely confined to a plane (or other space) of two dimensions.

Fourth-dimensional Realm

The intelligent beings have no faculties by which they can become even remotely conscious of anything outside their two-dimensional " space," and no means of moving away from the surface on which they live. Conceive them, therefore, as moving in a world of length and breadth, but one in which " height " does not exist. Abbott gives the inhabitants of his two-dimensional world various geometrical shapes. His women are Straight Lines. His Middle Class consists of Equilateral Triangles. His Professional Men and Gentlemen are Squares, with some Pentagons among them. The Nobility of Flatland are Polygons, with an increasing number of sides as they rise in rank or status—the Pentagons are the lowest order of the Nobility. The Priestly Order of Flatland—the highest class of all—are the Circles. All this may seem nonsense, unless you have read the book. But Abbott used his fantastic ideas to symbolise certain truths regarding our three-dimensional existence, and to indicate the possible nature of a fourth-dimensional realm, as difficult for us to conceive as our own world would be to creatures living in a two-dimensional one.

Abbott's most brilliant contribution to what we might term " four-dimensional philosophy " is his picture of a sphere descending on the plane of Flatland and passing through it. How would the inhabitants of Flatland become conscious of the contact of the sphere with their world? They would first conceive it as a point, quickly becoming a small circle cutting into their plane of existence. They could have no conception whatever of the sphere's solidity—as it passed through

their plane they would see it as a circle increasing in diameter, driving them outward from its circumference (for they could not pass within the solidity of the sphere). They would be driven back until half the sphere had passed through the plane, and then the circle or " ring " of which they were conscious would gradually contract to a point and vanish. Although I honour Abbott for his attempt to express his ideas of other dimensions in picturesque and understandable terms, I am bound to say that I do not agree with the way he personalised geometrical forms. The reader cannot be expected to conceive such squares, triangles, etcetera, as real " people " in any sense. Abbott's book, therefore, lacks verisimilitude, and therefore fails in its main purpose. Apart from his description of the sphere passing through Flatland—which is surely a stroke of genius—we are not much nearer any conception of a fourth dimension after reading his book than before we began reading it. Perhaps Abbott's greatest contribution to an understanding of other dimensions than our own is his insistence that each dimensional " level " can only be fully understood by the inhabitants of higher levels, e.g., that the people of his two-dimensional Flatland were not merely ignorant of any three-dimensional world, but were incapable of understanding their own—which could only be understood for what it was by three-dimensional beings.

Dynamic Truth

I believe that this principle is vital and absolute. If there could possibly be intelligences living in a no-dimensional world—signified by a point—then they would be completely ignorant of any possible one-dimensional world: signified by a line, and it would need the one-dimensionalists to understand them. Intelligences confined to a one-dimensional world would not be capable of any true understanding of their own world—that would only be possible for inhabitants of a two-dimensional world, having length and breadth. Continuing the application of this principle, the inhabitants of a two-dimensional world would have no conception of a three-dimensional one (as indicated in Flatland's two-dimensionalists and their inability to understand our own " solid " world), while we three-dimensional humans are needed to grasp the significances of a two-dimensional realm, however imaginary and fantastic. Continuing the principle, we now arrive at this dynamic truth: that we humans, in our three-dimensional world, are normally incapable of understanding its signifi-

cance, even as we find it almost impossible to conceive a four-dimensional world, superior to our own.

I realise, with sincere humility and profound dissatisfaction, my blindness and ignorance, as a very ordinary human being. That, I am very sure, is my one sure asset in my investigational thinking—my knowledge that I know so little. We are all subject to the prejudices and handicaps of our "spiderism." I explain that term in my book *The Inexplicable Sky*, but its general meaning is clear enough. Even as spiders interpret all experience and knowledge that comes to them in terms of their environment—webs, the catching of flies, the limited field of each spider's consciousness—so we humans, who are mere insects compared with higher intelligences, interpret all knowledge that comes to us, all our experiences, in terms of our own humanistic "spiderism."

Absolute Reality

I feel that it is a significant fact that an infant has to live in this world for many weeks before it is able to distinguish itself from its surroundings. Tennyson writes, in *In Memoriam*:

The baby new to earth and sky,
    What time his tender palm is prest
    Against the circle of the breast,
Has never thought that "this is I":

But as he grows he gathers much,
    And learns the use of "I," and "me,"
    And finds "I am not what I see,
And other than the things I touch."

What is happening to the infant—to each one of us as we enter this fantastic world of three dimensions? I question very much whether the infant—and that means each one of us as an infant—is learning *absolute reality*. I suggest that each infant born into this world—emerging, shall we not say, from other dimensions than our own—is learning to adapt itself to artificial conditions, unreal conditions, conditions in which the material world *seems* real and solid and permanent, while the world of spirit—the unseen Cosmos, of infinite dimensions—must be forgotten or at least regarded as unreal and unsubstantial.

Yet even materialist science has had to admit in recent decades the existence of unsubstantial realms. Man's penetration into matter has led him down into the insubstantiality of the atom: into realms where space is more "solid" than matter; into a Cosmos of spiritual and mental rather than material forms.

We adapt ourselves to this world. We become "personalised." We begin life, in this three-dimensional world, as *points*.

We shall come in good time to lines, curves and plane figures of the "closed" types, such as circles and polygons. But we must proceed with understanding. My conception of the Cosmos may be false and built upon illusory foundations —but it is at least an attempt to restore the "me" to geometry. I say "restore" because I believe some of the ancients understood the basic need of an observer in their conceptions of geometry. Euclid, unfortunately, did not. All his principles are consistent enough with each other—they "work." But—as I have indicated in my last article—the fact that a philosophic, scientific or geometrical system "works" is no proof of its ultimate validity. All scientific systems of thought —all conceptions of geometry—have always "worked," some more creakingly and clumsily than others. In the progress of mankind they are all crutches, necessary to his progress until man can walk upright in full possession of his spiritual, mental and physical faculties, with his face uplifted to the Light of God.

Recessional Observer

For many centuries, while Euclid held the field with his system of points, lines, curves, and plane figures of all kinds, geometry was not geometry at all—for the "me" was omitted from all its dogmatic theorems. We might perhaps describe it as "geotry"—Euclid's system being no more than a "try" to explain this world, this *geo*, in earth terms. Of the numerous thinkers in recent decades Professor Dunne probably contributed the most important principle towards an understanding of other dimensions than our own, in his exposition of what he called "Serialism." His conception of the artist who tries to paint a field (symbolising a philosopher trying to describe the Cosmos) and finds that he has left himself out of his picture, so moves back to another position from which he can paint the field again, with himself in the field, and so on, in an infinite series of regressions, with an infinite series of observers, is (to my mind) the most startling and vitally important contribution that has been made to the "other-dimensional" problem.

Keeping this symbolic theory in mind—the observer who has to move back to observe himself, and then move back again to observe himself observing himself—I must ask you to bear with me as I apply it to a new conception of geometry: true geometry, with a "me" in it. We shall have made considerable progress in this article if we can visualise a geometrical point as

an observer—any observer: you, me, any "me" in our three-dimensional world. Note that a point has no dimensions. Neither has an observer. Your mind cannot be measured. You are truly an observer, and—as I shall presently show—*a recessional one* in a non-Euclidean field of geometry—but (mark this well) you are alien to this physical world in this peculiar sense, that you, as a point of Universal Mind, cannot be measured. There is no "up" and "down," "sideways," "forwards" or "backwards" with regard to your mind, the point of observation which is your innermost personality. You are therefore not three-dimensional but potentially four-dimensional. (I shall not enlarge on the religious significance of this, as opposed to any materialistic conception of the Cosmos—the implications are surely obvious.)

The "Me"

What is it that brings the infant mind into fuller contact and usage of our three-dimensional existence? Surely it is *movement*. I do not mean physical movement, although this has relevance. I mean that the infant's mind *moves outward* from its own confinement in ignorance, and begins to work out its own spatial problems, which are—as they are formulated into a symbolic concept of our three-dimensional world— *geometrical*. Gradually, under maternal tuition, the infant's mind reaches out—at first in straight lines, then in curves, then (as it builds its experience) in plane figures, and at last in conceptions of solid, three-dimensional forms. Using this "workable" geometry, the growing child learns to move physically in our three-dimensional world, but it necessarily builds its own *mental* "geometry" first, and its physical movements are no more than the outward expressions of its innermost geometrical concepts. The point—that is, the observer—*begins to move*. From the point to the line. The infant's first experiences are unilinear and direct. The curves — prejudices — influence the child's straight-line thinking, and gradually begin to shape the plane figures which we can best describe as "closed"—triangles, squares, polygons, circles.

But the geometry that every infant builds is not Euclidean. It is not Euclidean because the observer is always an indispensable factor in every proposition. You cannot leave out the "me" in the geometry which every infant builds in his innermost mind—that true geometry which does more than "work" theoretically, for it works *practically*, in every human being's

contacts with our material world. It enables the growing infant to understand the physical world, to move about in it. It is basically important in the infant's appreciation of distances, of perspectives, of the apparent "size" of objects.

But we must appreciate the significance of the fact that this true geometry, with the "me" in it, is based upon *movement*: the perceptive mind of the infant is not confined within its skull—it reaches out, measures and compares lines, curves, and (gradually) solid forms.

The mind of an infant is a point which has no dimensions. It travels along a direct path and so creates a straight line. It is deflected by prejudice or preference so that it creates a curve. Slowly yet inevitably our three-dimensional world is created. It is created for each infant. It is born with each one of us, and (incredible though it may seem) it dies with the death of each of us. For this seemingly-solid world of three dimensions is not reality. It is a field of illusion. Reality lies beyond it, upward through an infinite series of dimensions. Through all dimensions the no-dimensional point must inevitably persist, for it is the viewpoint of the observer, taken back and back through an infinite series of observer-positions. The point—the observer—has no dimensions.

Movement

The point *plus movement* becomes the line, whether straight or curved, which we may define as one-dimensional existence. A one-dimensional world.

The line—one-dimensional world—*plus movement*, becomes a two-dimensional world: for "closed" figures, such as squares, circles, polygons, are made by the movement of lines. The two-dimensional world of "closed" figures changes to a three-dimensional world *as the result of movement*: the movement of plane figures into new relationships. What, then, is a world of four dimensions? In each case *movement* has been added in our progress upwards through increasing dimensions. To our three-dimensional world this same mysterious something is added to create a true concept of a world of four dimensions—*this factor which we call "movement."* I ask your patience until my next article, when I shall show you some of the fallacies in a few four-dimensional theories which have not completely discarded Euclidean conceptions, while we shall consider the significance of movement in greater detail, particularly as applied to a four-dimensional Cosmos.