

Connected Whole X

Part a

409. *Three Generals about the Doctrine of Forms.* It would be useful to continue these notes on The Connected Whole begun in 1979 on the whole of Swedenborg's philosophy. But for many reasons that whole is a complexity that must be treated of in parts. In this installment I shall try to outline that part based upon the doctrine of forms. Rather than beginning with an outline of the particulars to follow, let it be understood that under the doctrine of forms there are three general forms:

1. The form of the universe, a place where man can exist and move.
2. The form of the government of the soul by which man can live and be intelligent.
3. The form of the government of the Lord and of heaven by and in which the man created by regeneration can become intelligent and wise.

The first is described as a theory in the work called *The Principia*. The second is philosophically sought for and reported on in Swedenborg's two principal series of volumes: *The Economy of the Animal Kingdom* and the *Animal Kingdom*. The third is the subject of revelation reaching from the *Arcana Coelestia* to the *True Christian Religion*. This set of notes is limited to the first two generals, that is, to forms in the physical universe and forms in the search for the soul.

410. *The Doctrine of Forms Insufficiently Described by Geometry.* The doctrine of forms is unsatisfactory as a philosophical doctrine when described geometrically. Yet the doctrine of forms as applied in the *Principia* and in the greater part of its formal treatment in *The Fibre* (Treatise III of *The Economy of the Animal Kingdom*), is geometrical. The *Principia* simply would not exist if the forms of motion in the several degrees of finites, actives, and atmospheres, were not described in geometrical terms. Even the origin of all this in the "conatus"—that is, in the Infinite itself, named the first natural point—is described exclusively in geometrical terms. So much is this the case, that early readers of the *Principia* spent much energy trying to build models (as material wire frames) of early finites in the process of creations. But one has only to consider form with regard to a number of important

generals to see that reality is more than geometry within. These are: I. physical nature itself; II the kingdom of the soul; and III the kingdom of the Lord.

I. In *The Principia*. Before commenting on this, it should be known that this work is essential to the beginning and continuation of Swedenborg's philosophy as a whole, in this respect: it outlines creation and formation of the physical universe beginning in the Infinite and proceeding by successive degrees to the most final finite things in the universe. Three series of different kinds of things result: (1) Things that are substances that have a permanent existence as such, that preserve an actual nature in each degree, called finites. (2) Each of these finites when free to do so, has motion that introduces the notion of activity suggesting a form of life in each degree, called actives. (3) When actives are included in structures composed of finites, the means of relating one object with another is provided, as represented by magnetic and gravitational forces. These structures are called elementarles, or auras, or atmospheres. The physical universe is, for the sake of the human body, to exist and move. The human body is, for the sake of the soul and its kingdom, to live and be intelligent. That, in three parts, is an outline of the most generals of Swedenborg's philosophy.

The *Principia* theory provides a geometrical way of seeing the composition of the universe. Swedenborg was well aware of the difficulty in the geometrical dependence, especially when describing the first natural point. He invited others to provide a better theory. A careful reader of the *Principia* will acknowledge the use of the geometrical method: There it is, no better overall theory of creation, beginning in the Infinite, and formation has been given. There it is, for example, in contrast to Christian philosophy, in which creation is out of nothing (*ex nihilo*). Swedenborg is against this particular from past philosophy. Instead he wrote emphatically "From nothing, nothing comes (*ex nihilo nihil fit*)." The Latin form of expression is important because, however little a student uses his school Latin, he recalls that this is the only example when *nihil* is inflected! The *ex nihilo* theory has not yet departed from Christian philosophy. But something is missing from Swedenborg's *Principia* theory. Pure geometry is not a source of the whole reach of the principle of end, cause, and effect when it appears in Swedenborg's philosophy as a whole; and in order that there be creation from the Infinite this principle is essential. Even in "creation" as used in physics today, as in the "big bang" theory, although Infinite as a creative principle is not used,

although the moment of the big bang cannot be imagined without some kind of geometrical relation between nuclear particles, yet geometry alone is not sufficient. Ever since Hume, philosophers and scientists have been confused over how to think about what is added to geometry in order to arrive at reality. Scarcely any physical description is possible without the use of the word "force." The classic examples that persist are the force of gravity and the transmission of light. However much the existence of atmospheres, called ether (or by any other name) are themselves denied, the existence of "force" of gravity and the transmission of light cannot be. At least this, I am led to believe that the absurd expression "force in empty space" has been dropped as once used in textbooks in physics—although I have not had occasion to survey textbooks as such for a number of years; but this is not the place to expand on this. The reader is referred to Clifford Barrett's *Philosophy* (1919) where, in the chapter on causality there is David Hume's treatment of the classic criticism of the notion of causal forces, and which has "led to its abandonment in scientific and philosophical thought." One can question this conclusion, but it is useful to give a part of Barrett's presentation of Hume that leads to this view:

...if we question or attempt to analyze this thing called *force*, we soon discover that not only do we never perceive it, but further, that there is not the slightest ground for assuming that any such imaginary things exist. Our very idea of what we mean by the word is confused and indefinite. In fact, it means nothing more to us, and has no other purpose, than that of a cloak for our ignorance of *why*, in our experience, certain things seem regularly to precede or to follow certain other things. The Scottish philosopher, David Hume, has given the classic criticism of the notion of causal forces, and one which has led to its abandonment in scientific and philosophical thought (p. 203).

One questions this conclusion because of the actual use of the inverse square laws of gravitational, electric, and magnetic forces without which the present laws of physics would not exist. The "big bang" theory of creation, not to forget the tremendous forces resulting in both fission and fusion in nuclear chemistry, are calculated by formulas that express changes of mass in "creation" and "annihilation" of matter in terms of energy units. As noted elsewhere, the geometrical description of the atoms since 1928 is sufficiently obscure to defy geometrical model-building theories. The geometrical

description of nuclear energy is certainly no less obscure. But manifest forces in both military and peaceful energy applications make denial of forces absurd.

Since Einstein, there is a theory well known to physicists that unites the geometry of space with time to account for the form of things in the universe. Yet it must be acknowledged that in science, no explanation is complete that depends on geometrical form alone.

II. The kingdom of the Soul. Beginning with the work on *The Infinite and Final Cause of Creation* wherein Swedenborg's philosophy turns from cosmogony to man, specifically to his search for the soul, geometry ceases to be the exclusive means by which forms are described. For example, whether it be in the words that name his first series of volumes on this search for the soul, *The Animal Kingdom*, the titles as terms are not sufficiently imagined by geometry alone. Consider "economy" as government. One may think of government as a *form* of government. But is that form described geometrically? The same goes for "kingdom." The kingdom of the soul is composed of four general parts: the soul itself, the rational mind, the animus, and the body and its senses. How can this kingdom, as kingdom, be described geometrically?—however much geometry is used to describe organic forms, both external and internal, these geometrical descriptions do not sufficiently describe the soul's kingdom.

III. The kingdom of the Lord. Even if comparative degrees can be imagined geometrically only somewhat, in going from the soul's kingdom to the Lord's kingdom, even less so can the Lord's kingdom be represented geometrically. Yet geometry is used even to describe spiritual things, but as teaching, not as representing things themselves. In the previous set of notes there is a three dimensional drawing representing a relation between the different senses of the Word as described geometrically (see DLW 205, SS 35; Philos. Notes, *New Philosophy* July-Sept. 1982). But there is no pretension that the drawing of concentric cylinders is a geometrical description of the operation of the literal, spiritual, and inmost senses of the Word. Even a most casual survey of "form" in Potts *Concordance* presents many realities that have non-geometrical form: forms according to use, forms of man according to regeneration, form of heaven (as heaven, not as appearance), the intellectual is nothing but the voluntary in form,...etc., etc. and let us not forget truth as a form of good. This last appears already in philosophy:

Therefore truth is the form from which, according to its quality, perfection, or harmony and goodness, affection results, or love and hate (*Senses* 540. See concerning harmonic forms *ibid.* nos. 552-564; changes of state, modifications, affections by sensations, speech forms, ideas as changes of state nos. 565-616.).

Let it not be supposed that a theory of creation and formation is possible without geometry. But a theory is incomplete that is without forms beyond the geometrical. The present non-model theories of the atom and its nuclear and subnuclear parts would not exist without the geometrical-form theory of Bohr preceding them historically. Even today, that theory is useful to teach about atoms, but the very existence of quantum theory, whatever its interpretation, depends on something more than geometry. (See the space-time geometry of Relativity as a qualification. Yet that interpretation of geometry refers to its process of reasoning rather than the "figures" that reason gives rise to. The scientifically trained reader as well as others would be interested in the difficulties P. A. M. Dirac, a noted physicist, has in giving a popular description of relativity. He depends on a series of three dimensional "pictures" represented in successive moments of time. They are reminiscent of the Edison "flickers" of the penny arcade days, primitive to present day "movies"—a term remaining from "motion pictures." Why are present day movies sensed without consciousness that they are a succession of "frames" in moving films?—that itself results from beyond-geometrical causes and effects in the psychological persistence of memory. Concerning Dirac, see "The Evolution of the Physicist's Picture of Nature," Chap. 32 of *Mathematics in the Modern World* in Readings from the *Scientific American*. Fifty years ago, as I recall, there was a book popular among mathematicians on "Geometry" that had no figures. This clearly depended on geometrical method of argument, not on figures made of points and lines.)

411. *Are the Three Means Leading to True Philosophy Properly Named as "Experience, Geometry, and Reason?" And What Happened to that Triad Later in Swedenborg's Philosophy?* Early in Chapter I of the *Principia* Swedenborg wrote:

But he who wishes to attain the end (i.e. of true philosophy), must wish likewise to attain the means. Now the means which more especially conduce to knowledge truly philosophical, are

three in number—EXPERIENCE, GEOMETRY, and the FACULTY
OF REASONING (Clissold edition p. 2).

I have been asked why geometry has such a prominent part in the means leading to truth philosophy. As it turns out geometry is not the second means alone, for when Swedenborg arrived at the place where he described the second of the three means he wrote:

The second medium leading to wisdom, by which the arcana of invisible nature may be unlocked or revealed, is geometry and rational philosophy (Clissold edition, p. 14).

In consideration of the whole triad, a part of one of the parts is rational philosophy. What rational philosophy is and how it is related to the larger encompassment of true philosophy is a subject in itself. These notes are directed to "form" as geometry, and beyond. So just a few words only as two suggestions on rational philosophy.

(1) Rational philosophy since it is only a part of a whole called true philosophy must be of less encompassment than true philosophy. According to Swedenborg's description, rational philosophy might have been something like mathematical physics, a subject that in Swedenborg's time was only in its infancy, as Newton's dynamics had not yet become the important part of physics that it assumed by the end of the nineteenth century, and into our own. For those of us schooled in the latter subject it may be difficult to imagine what natural philosophy would have been like without it. Thompson (Lord Kelvin) and Tait, two prominent mathematical physicists of the nineteenth century, named their book on mathematics for physicists "Natural Philosophy."

Any development of that subject would contain reflections back from Swedenborg's later philosophy as his search for the soul developed. Such reflection would have to give due regard to the philosophical doctrines of degrees, form, correspondences, etc. These certainly are not Experience, nor Geometry, nor Reason alone. (See the latter part of this note for what happened to the triad of the *Principia*.)

Once we know that geometry does not hold its place alone as the second of three means leading to true philosophy, it is then important to understand what did happen to the triad as a whole as Swedenborg's philosophy developed during his search for the soul: In the Rational Psychology the human intellect is described as made up of "parts of thought": imagination, memory, thought itself, judgment, conclusion, and will. This, I admit, oversimplifies things, but that is necessary for the sake of brevity in order to get to the fact

that there is in *the Rational Psychology* a chapter with the title "Science, Intelligence, and Wisdom." Briefly, science is knowledge, intelligence is ability, and wisdom is a state described as follows:

He is wise who in all things has regard to an end, chooses the best—that is, makes right use of his liberty—and embraces what should be embraced, and shuns what should be shunned (R. Psych., 421).

This was written very near the center point of Swedenborg's philosophy, so there is much to follow. This is a triad of greater encompassment than Experience, Geometry and Reason, which itself changes before it receives its final form within Swedenborg's philosophy.

In the *Animal Kingdom*, intelligence is given a special study that breaks it down into Experience, Science and the Faculty of Thinking Distinctly (AK Epilogue to Part II). Near the end of the philosophical writings, in the *Five Senses* (n. 539) science, intelligence, and wisdom occur in a series of seven, thus: SENSATION, THINKING, JUDGING, SCIENCE, INTELLIGENCE, WISDOM AND SUPERIOR WISDOM. Here we see repeated within a longer series and preceded by "parts of thought" (sensation, thinking, and judging), the same series of three already noted in the *Rational Psychology* (1742): Science, Intelligence, Wisdom. Because to intelligence was given such special and enlarged meaning in *The Animal Kingdom* (1744-45), we should not be surprised to find that the meanings of these three terms in *The Five Senses* (1744) are very different from what they are in the chapter in *Rational Psychology*. For example, Science is not simply knowledge as described there, but assumes a very broad encompassment. Defined in full it is:

SCIENCE therefore to know these truths which manifest goodnesses, wherefore it is also its part to know the nature of goodnesses by aid of the faculty of thinking and judging sensually from experience, physically by rules geometrically true, philosophically by reasons and analyses of the mind, thus by those explored by the analytical way (Sens. 529).

That there is a difference from the *Rational Psychology* I have said ought not surprise us, but as we read its context its encompassment is truly amazing. All three of the means enumerated in *The Principia* leading to true philosophy are now included in science alone! There they are: 1. "sensually from experience"; 2. "physically by rules geometrically true"; and 3. "philosophically by reasons."

When "philosophy" (defined as a theory of the creation and formation of the natural universe) has been expanded to include the search for the soul, we might not expect geometry to have the same status. Philosophy becomes more encompassing because natural elements of the world or even the universe do not think, they only exist and move; whereas the soul's kingdom lives and is intelligent. "Science" used for inductions in the search for the soul, perforce must include more than existence and motion, or substance and form, because the substances and forms of the soul's kingdom live and are intelligent. It is not the intelligence of the philosopher only, nor the reason of the philosopher, but the intelligence and reason of the subject *under study* that became proper to philosophy itself. We see the difference immediately if we apply the nature of the parts of the soul's kingdom to finites, actives, and atmospheres. What happens to these when compounding of them forms the body that receives the soul that is searched for? To be scientific? To be intelligent? To be wise? That is absurd, which only goes to emphasize that a great change came over the case history of Swedenborg's philosophy when he turned from cosmogony to the search for the soul.

Some are still living who in their education in Swedenborg's philosophy were limited to *The Principia* theory. Even those who got as far as the *Rational Psychology* fall far short of having the basis for a true understanding of that philosophy as a whole. I have finished this all too brief description by a rapid excursion from the *Principia* to *The Five Senses* with regard to the triad of means leading to true philosophy, thence to "science" near the end of Swedenborg's philosophical period. I add the following descriptions of Intelligence, Wisdom, and Superior Wisdom in *The Five Senses* so the reader will have at hand a brief synopsis of what finally became of the original triad.

It is the part of:

INTELLIGENCE to regard ends in every series of the operations of the mind, and in its single moments, and to dispose the series of ends or mediate ends to the ultimate end in order that they may be uses. It is the part of WISDOM to choose the better from the goods of ends, and the best from the better, which is the ultimate end of intelligence—not only to choose, but also to will; not only to will, but also to do; so that it may take on a state conformable to the nature of that goodness; wherefore to pursue the felicity which results thence. It is the part of SUPERIOR WISDOM, not only to choose, will and do the best,

but also to love it, wherefore to be affected by a goodness which it does not naturally feel. For that superior wisdom a superior intelligence is required, and a superior science which does not flow in by way of the senses or the posterior way, but by way of the soul or the prior way. This alone is left to the liberty of our understanding, to remove and dispel the inferior loves, which are sensible to us, that they may not stand in the way of the superior and supreme mind flowing in if it pleases; wherefore it pours in science, intelligence and superior wisdom; for inferior loves must be dulled and almost extinguished, so that in the sphere of our mind superior loves may live and rule. These increase in purity as inferior loves decrease. These now first come forth sensibly, and infinitely exceed interior loves in loveliness. Thus we ascend from natural to spiritual life; for according to repeated demonstrations, a like affection corresponds to sensation, a like state, to affection, a like effect, to state, wherefore a like felicity to the best love which is called heavenly (*Senses* 539).

412. *Something about a Doctrine of Substance and Common Notions.* Although "substance" is used at the very beginning of the philosophical doctrines, "doctrine of substance" does not appear in enumerations of them so far as I know. "Substance" is a *common notion* upon which the description of the doctrine of series and degrees depends (see EAK, pt. 1, Chap. VIII and below for the reasons why I use the term "common notion" somewhat more generally than as whatever it was in the original Greek of Euclid's *Elements* that is translated as "common notion" in the Heath translation). Today, I believe it is more acceptable to scholars to use "undefinable" with reference to "point" and "line" and to use "assumption" instead of "axiom." But the history of thought being what it is, here as with many other things, it is scarcely possible to say anything by any words whatever without addition of "in this place" and other qualifications.

One cannot begin to speak of any subject without using certain words that are undefined—I prefer to use "common notion" as an affirmative expression rather than "undefinable" as a negative one. It is proper to include here a comment on "point" and "line" in geometry, by those names or by others.

Although "doctrine of substance" does not occur in lists of philosophical doctrines in Swedenborg's works as noted above, nevertheless the doctrine of substance by implication is given a place of supreme importance. The importance is that it is a term that is like

the "common notions" of point and line. Without these there is not geometry, and with which, but not defined, there is. I had a teacher in mathematics who had a view that all geometry would be the same even if "pern" and "lem" (or any other symbol) were substituted in theorems for point and line—"pern" and "lem" being of course two combinations of letters, neither of which is found in the dictionary.

Although there is no explicit reference to the doctrine of substance, yet substance is explicitly referred to in the description of the doctrine of series and degrees. Only one other word is more fundamental as an undefinable or common notion, and that word is "thing." Let us glance at the opening clauses of the sections devoted to the subject of the Doctrine of Series and Degrees or of Order (EAK, Pt. I, Chap. VIII).

- I. "By the doctrine of series and degrees we mean that doctrine which teaches the mode observed by nature in the subordination and coordination of things..." (580).
- II. "To the intent that we may advance from the primary sources of existence, we shall begin with substances..." (588).
- III. "The first substance of every series..." (593).
- IV. "By this process...in such a manner, that the more simple substances..." (607).
- V. "Simple substances are those which..." (612).
- VI. "Such as are the substances, such likewise..." (618).
- VII. Neither "substance" nor "things" appear in the first sentence, although "corresponding things" does soon after. Nevertheless, neither thing nor substance is excluded: "Aggregate entities of the same degree and series have reference to their unities..." (628). The "entities" are either things made of substances, or more accurately (after the doctrine of correspondence is introduced) the term "correspondents" might be used.
- VIII. "The most simple and the only substance of the animal kingdom is..." (633).
- IX. "If we would...it will be necessary first to inquire what things..." (639).

So it is with the beginning of each of the nine sections of the chapter.

Hence, because there are degrees or things, I believe it is proper that there be added to our thought about Swedenborg's philosophy, a doctrine of substance. "Things" do not require a special doctrine because, as the doctrine of correspondence develops, the things of different degrees that correspond are named correspondents.

In the text, Swedenborg does indeed give a definition of substance, upon which occasion he remarks that Aristotle's definition

was "half right," but for the most part the above clauses can be fitted into their full sentences with meaning, that is, even if "substance" and "thing" are regarded as common notions only. It may be said that I omitted the content in each case for the sake of brevity. But I really had another reason, and that was to show how in fact in the several statements intended to describe the doctrine of series and degrees (whether "substance" or "thing" is used) it is with a common notion aspect. I believe that any definition of substance or thing, Aristotelian or otherwise, would not help understand the doctrine of series and degrees any better as a first thought. *Afterthoughts* might be useful as such, but not as *first* thoughts. Every verbal beginning depends on common notions. Geometry gets along very nicely without definitions of point and line. To afterthink with "pern" and "lem" for the beginner in geometry (the student in secondary school) would not only be absurd but would be obscure. The average reader of these notes is probably not educated in logic, or at least has little enjoyment in the ways of logic other than the elementary approach that we all have, or there would be no communication at all, and much less could these notes be written—or perhaps critically commented on! Nevertheless the method of "first thought" commented on above with regard to substance must be given favorable attention. Some favorable attention might also be given by those who pursue a subject to second, third and other afterthoughts.

To illustrate, instead of thinking "substance" let us think "truth." How often must one use the word *truth* before he or she even wonders about how to define truth. A long time ago, but of course after I had used "truth" many times, I came across this footnote in *Logic, the Theory of Inquiry*¹ by American philosopher John Dewey:

The best definition of *truth* from the logical standpoint which is known to me is that of Pierce: "The opinion which is fated to be ultimately agreed to by all who investigate is what we mean by the truth, and the object represented by this opinion is real." A more complete (and suggestive) statement is the following: "Truth is that concordance of an abstract statement with the ideal limit towards which endless investigation would tend to bring scientific belief, which concordance the abstract statement may possess by virtue of the confession of its inaccuracy and one-sidedness, and this confession is an essential ingredient of truth" (p. 345).

¹John Dewey, *Logic, the Theory of Inquiry*, Holt, 1938.