

# SCIENTIST TO REVELATOR: TWO SWEDENBORGS OR END, CAUSE, AND EFFECT?\*

---

Reuben P. Bell†

## INTRODUCTION

About a month ago I gave a lecture to 130 first-year medical students about the art and necessity of thinking from causes when dealing with disease. Treating symptoms, which are only effects, is just buying time, I told them, but finding and correcting the cause of a disease will take the disease away.

In medicine the idea of multiple causes is used to define the processes leading to disease and death. A death certificate does not ask for the cause of death, but for its causes—antecedent, determinate, and proximate—to name only three. In this medico-legal document, I told them, you are required to think from causes.

Aristotle was a pragmatic philosopher, who described a series of four causes for all things that exist,

- final c.—the purpose or aim of a thing
- formal c.—the thing’s abstract structure or “blueprint”
- material c.—what the thing is made of (if it is a thing)
- efficient c.—that which brings the thing into being

Now Emanuel Swedenborg says “in every complete thing there is a trine . . . end, cause and effect” (*TCR* 210, *Cor* 17, *D. Wis.* 11). One end, or

---

\* Address presented at the One Hundred and Seventh Annual Meeting of the Swedenborg Scientific Association, April 24, 2004.

† Rev. Reuben P. Bell, D.O., M.S., M.Div., left his general practice of osteopathic medicine in rural Maine in 1991 to attend the Academy of the New Church Theological School in Bryn Athyn, PA. While there he was Associate Professor of Biology at the Bryn Athyn College. After earning his M.Div. and being ordained into the Church of the New Jerusalem in 1997, he was actively involved in the ministry of the General Church of the New Jerusalem. In 2003 he became Associate Professor of Family Medicine and Director of Medical Humanities at the University of New England College of Osteopathic Medicine in Biddeford, Maine. He lives in Fryeburg, Maine, and continues to devote his energy to the study of Swedenborg’s scientific and philosophical works. Address: reubenbell@adelphia.net; P.O. Box 554, Fryeburg, Maine 04037.

purpose behind the thing (Aristotle's "final cause," as Swedenborg himself used the term in *The Infinite, and the Final Cause of Creation* in 1734), and only one effect, the endpoint of the causal series. But there may be a whole chain of "efficient causes," some obvious, and some not. And in *True Christian Religion* 570 we find that

Those who seek out effects are called scientific spirits. Those who enquire into causes are called intelligent spirits. Those who examine ends are called wise spirits. [But] directly above them in heaven are the angels who see causes from the point of view of ends, and effects from the point of view of causes; these angels are the source of enlightenment for [all] three.

Enlightenment then, comes not just from knowing effects, or understanding causes, or even from knowing the purpose behind them, but from seeing end, cause and effect as one. It's what the angels do. My questions to all of us are 1) how well do we do this, with the works—and I mean all of the works—of Emanuel Swedenborg, scientist and revelator; and 2) why do we strive so hard to separate the two; pretheological works and theological Writings?

Are these two sets of writings different? Enormously. But are they mutually exclusive? Hardly. Are they complementary? Well, yes, in a way, because they are sequential, and as such one corpus is built on the other. Here's the problem: We have the luxury of viewing Swedenborg's entire corpus through the retrospectroscope, a very powerful instrument that gives us perfect perspective, but which robs us of empathy.

Swedenborg was plodding along (yes, plodding) in a line—a long life-line—trying to do one thing: to find out how the world works. Which world? The natural world and the spiritual world: these were essentially the same in Swedenborg's mind, with just a little separation, to keep things orderly. What was the subtitle of his *Principia*? The First Principles of Natural Things, or "How the world Works . . ."

The problem is that when we look backwards at this man's works, in an analytical way, we see the perfection of the theological Writings and the tentative and often painful process of his earlier works, and we are inclined to draw a line at his enlightenment (if we can find that point in

time). And most people just don't cross that line into what went before. And why would they? The Writings have it all.

Swedenborg's science is quaint; a lot of it is wrong. What good is it in this modern age? And the big question asks, "Didn't his pretheological works stir up a lot of trouble in the General Church, about 100 years ago? Do we want that again?" I don't think so.

### WHAT'S THE USE?

I believe there is great utility in studying Swedenborg the man and his scientific works, if (like everything else) it is done in the proper way, with the proper expectations, and done with the humility proper to such a task, like those angels in *True Christian Religion* 570. That's what New Church scholarship is all about, or certainly should be. Swedenborg's works are sequential. He didn't just fall out of the sky, in 1745, and begin to reveal the truth. Who did the Lord enlist, of all the people in the world at the time of the Last Judgment? Not a man who had all the answers, but a man who had been wrestling with the right questions for almost thirty years, that's who. And if you don't have the questions, what earthly good would all the answers be?

The secret is preparation—a person's loves, delights, interests, aptitudes, talents. Following these prepares a person for his or her own unique use. Swedenborg's preparation was no different: led by the Lord, but led in the freedom of pursuing his own interests. In his case, his interest was in a systematic search for the soul's operation in the body, and the nexus of their interaction. He was bound to fail; but fail we must if we are ever to learn to let the Lord take over and lead us to our goals. Swedenborg finally did. And then the Lord did. And the rest is history. What we find in the life-line of this curious man is a lesson for every one of us who strives to know the Lord and His creation.

There is an obvious division between Swedenborg's science books and his revelatory Writings. The Latin scholars tell us that the style and content change radically in 1744–45 from the formal language of his "pretheological Works." These are analytical, philosophical, often tentative, and based on a logical progression of objective facts to convince the reader of the truth of the argument. We call that "science."

The theological Writings are personal, even anecdotal; here Swedenborg speaks from experience, and he speaks with great authority. And yet here is humility that we do not see in our precocious scientist. That authority is no longer from himself and the power of his logic, but from the Lord alone.

So there is an obvious division here, for anyone to see, and worse yet, there is a problem in those works, and a question:

Problem: There are ideas (principles) in the theological Writings that are found essentially complete in the scientific (and by definition not “inspired”) works.

Question: Which of Swedenborg’s ideas might have come his way from other philosophers and scientists? He didn’t just fall out of the sky in 1719 and write *On Tremulation*. He was a broadly educated man.

### THE PYRAMID

We need to address these questions of Swedenborg’s cosmology (or “how the world works”) in an analytic way, by looking first at Swedenborg’s scientific works. I have broken the cosmology found there down into three categories:

1. Ideas from other philosophers—which carry through into the theological Writings;
2. Swedenborg’s original ideas—which carry through into the theological Writings; and
3. Doctrines appearing for the first time in fullness in the theological Writings for the New Church.

What emerges are clearly identifiable threads, or lines of thought, converging but still critically incomplete at the time of Swedenborg’s call, and perfected afterward by his spiritual experience.

Imagine a great pyramid of three layers: a broad base, a solid middle portion, and the third layer a magnificent capstone, glowing from within, with spiritual light, that flows down, illuminating the whole structure, even to its base. This is Swedenborg’s cosmology: a magnificent model of

how the world truly works, as viewed through the clarifying lens of our retrospectroscope.

To construct this pyramid, we will examine those works, in order, to see what they can teach us about Swedenborg the man and Swedenborg the revelator, and to see how the Divine providence works to prepare us for things we would never imagine. As you might imagine, there is a lesson of end, cause, and effect in all of this.

## BUILDING THE GREAT PYRAMID

### The Base of the Pyramid

Swedenborg was a voracious student, of both science and philosophy. And as students do as they go about their business, he made lots of notes. He traveled widely to the great centers of learning, and he assimilated ideas wherever he went. Some ideas he discarded. Some ideas he modified and put to use in his own systematic way. And some he appropriated, to the end of his life.

Three philosophers in particular contributed greatly to the formation of Swedenborg's developing mind; each had his own spin on how the world worked. Descartes predicted a soul/body nexus in his dualistic world which had no voids, but was held together by a series of contiguous bodies, in contiguity. Swedenborg would come to build a universe around this term, adapted to his use. Leibnitz said that matter was made of little "monads" that come in pairs, in a dualism of sorts. And he imagined an "alphabet" of human thought, where complex things were represented by simple ones, or even by symbols alone. Swedenborg would take these seeds and grow great theological principles from them. Christian Wolf described two kinds of "stuff": extended matter and non-extended substance. Swedenborg saw two worlds in this: a world above and a world below.

These ideas, added to Swedenborg's grounding in Aristotle's logical method and the disciplines of a classical education, form the base of our pyramid. This represents the broad education on which Swedenborg would base his life's work.

The next level, the massive middle of our pyramid, is the one that Swedenborg constructed himself, using his analysis of scientifically derived natural truths, in an attempt to describe the workings of the world—and to ascend from the natural upwards, to the very limits of the spiritual world.

### **The Middle of the Pyramid: Matter**

The most basic aspect of his analytic science is his description of matter, and how it is compounded, in series, from simpler things. This is described in detail in the *Principia*:

A point is dimensionless and dynamic, not “mathematical” or hypothetical at all. It is real, but not completely of this world (think final cause . . .).

The first natural point comes from circular motion imparted to the point (spiritual conatus): a spiritual/natural entity awaiting form.

The first finite is formed of this circular entity with a motion of its own: a combined motion in a spiral, or gyre, the most perfect natural form.

The second finite is compounded from clumps of first finites; it is passive, a receiver of motion.

An active of the first finite is an independent second finite; it is active; its motion is reciprocal to the second finite

The elementary particle is truly matter, a binary of a second finite and its active of the first finite.

Swedenborg the scientist builds matter up, from a single point, the smallest component of extended matter, although it is not extended. In *Principles of Chemistry* (1721) this point, in successive combinations, gives rise to all matter. But this wouldn't do: Swedenborg suspected that matter must have two complementary attributes (fluent and quiescent). So he refines this idea in *Principia* (1734) into an elaborate model of an active and a passive, in an intimately associated reciprocal dualism, forming an elementary particle, built up from a compounding series from the first natural point.

This elementary particle is matter, from which all things of the universe are created. (We will find this binary again, in the theological Writings, expanded, as the conjugal principle: the presence of the Divine marriage of Love and Wisdom in all things.)

Quaint science? This elementary particle looks an awful lot like a quantum physics atom to me: subatomic particles blinking in and out of reality, compounded into little reciprocating pluses and minuses, built up into shells and orbitals of multiples of the same simple particles. Here, in 1734, at the beginning of Swedenborg's career, we find his truest interest already in full bloom: spirit into nature, forming as it comes.

### **The Middle of the Pyramid: Doctrine of Degrees**

Another of Swedenborg's major concepts born early in his scientific period matures in final form as his Doctrine of Degrees and Series, but begins with his analysis of the connection between body parts in a relational scheme based on the philosophical premise that all things must by necessity exist in a series of end, cause, and effect. Swedenborg expands this idea by applying his own anatomical experience.

The *Principia* tells us that the contiguous elements in elementary particle series "owe their existence to their mutual dependence on each other, there being a connection, by mediums, from ultimate, whence all things have respect to their first source from which they derive their existence."<sup>1</sup> The concept of degrees here (and elsewhere in this book) is virtually complete, but without doctrinal status, and without a formal name.

A name does appear in *The Infinite* (of the same year), in which we are told that for the world to exist, its elements must be related in a series of perfections, or degrees. By 1734 then, we have evidence of a relational scheme governed by certain laws, by the general name of "degrees."

By 1740, this principle had become a well-developed doctrine of association and connection, fully demonstrated in *The Economy of the Animal Kingdom*, where we are told that "this doctrine constitutes a principle part of the natural sciences; for everywhere in nature there is order, and

---

<sup>1</sup> *Principia* (London: W. Newbury, 1846; reprinted, Swedenborg Scientific Association, 1976, 1988), 20.

everywhere the rules of order. It is a doctrine which expounds the nature of the veriest form itself, without which nothing which is predictable of anything can occur" (§581).

This is immediately the most pervasive of Swedenborg's doctrines, explaining as it does the operation of nature on virtually every level, and by extension, promising to explain the operation of the Divine in nature as well. At long last, in rational terms, the troublesome paradox of pantheism appeared to be yielding to this doctrine of Degrees.

Late in the development of this doctrine, the problem of the nature of the connection of spiritual to natural things arises. There was no easy solution to this most important question, and despite every effort, Swedenborg was increasingly frustrated by its elusive nature. If even remotely connected, then all of Creation is nothing but an extension of the Creator. But with no connection, the Creator does not participate in Creation. Disallowing either extreme, Swedenborg sought the mechanism whereby the two could be linked in action, but apart in space. This was a crucial problem, and simple enough in principle, but impossible to solve. The Doctrine of Correspondences, the last of Swedenborg's major concepts to be considered here, proved to be the most demanding of them all.

### The Problem of Correspondence

Correspondence as a doctrine is not considered as early as *On Tremulation*, but the rudiments are there, nonetheless, in the fourth Rule of Tremulation: There are sympathetic vibrations in strings if both strings are tuned to the same key.<sup>2</sup> Elsewhere in the book is a discussion of whole systems of sympathetic tremulations arising from a single tiny force.<sup>3</sup>

It is in *The Economy of the Animal Kingdom* that Swedenborg shows us both the necessity and utility of a doctrine of correspondences. What is needed to solve the problem of spiritual/natural association is a doctrine of order and connection to explain the true condition. He called this

---

<sup>2</sup> *On Tremulation* (Boston: Mass. New-Church Union, 1899; reprinted, Swedenborg Scientific Association, Bryn Athyn, 1976): 2.

<sup>3</sup> *Ibid.*, 13–14.

necessary condition “coestablished harmony,” or a system of levels built into creation at the start (§593).

Next, we are given five general rules for correspondence (§648), but they offer little explanation of how the system might actually work.

In the same book, Swedenborg discusses correspondences with respect to the spiritual/natural nexus. In a fascinating glimpse into the state of Swedenborg’s process, we find him saying, “Of the transcendent nature of this conjunction there is no analysis and no abstraction that can reach so high . . .” and it is “infinitely above the sphere of the human mind” (§§251–52). The scientific method could not reach above its limits to find the limits of the soul. And as we all know, Swedenborg the scientist was about to find the limits of his own abilities as well.

In a final restatement of this disappointing fact, Swedenborg closes his *Rational Psychology* by reluctantly admitting that the knowledge of correspondence (called here a universal mathesis) which “has hitherto been unknown to the world,” is still beyond his grasp. “. . . there are many rules to be premised, data to be set forth, and truths to be connected together before I can undertake the task . . . For this reason I forbear to make the attempt.”

He promises instead another, future book, “which more surely and quickly leads us into hidden truths” (§576). Unknown to Swedenborg at this time, the Doctrine of Correspondence was not to come at all, by any amount of his own labor or analysis. What was to come was spiritual crisis, and a period of failure and doubt, followed by the answer he could not obtain—revealed at last in a unifying vision of spiritual reality: the apex and capstone of the pyramid would come from above, not below.

### **The capstone of the Pyramid: Correspondence Revealed**

This vision was not to come in an instantaneous flash of insight, but from the wisdom of continuous, cumulative experience in the spiritual world, primed by a lifetime of striving in the natural. Here Swedenborg saw the connections, the relationships of things with other things, and haltingly at first, he began to see what he had not seen before. In his vision of man the microcosm of the Grand Man of Heaven, he found the nexus,

and in doing so, he found his correspondences. And he found a whole lot more. The contiguum and the finest things of nature were there, but they are no longer the center of attention. Instead of the membranes, the fibers, and the cortical substance, we find in *Divine Love and Wisdom* that the soul, which lives after death, is the spirit, and is in complete form a person; the soul of this form is the Will and the Understanding, and the soul of these is Love and Wisdom, from the Lord (*DLW* 394).

As a function of this spiritual enlightenment, Swedenborg redefines the soul, its domain, and its operation in the natural body, and by this living example, defines his unifying doctrine of correspondences. Let me read it to you, from *Arcana Coelestia* 6057:

Before any statement can be made about influx and the operation of the soul into the body, it must be well understood that the internal man is formed according to the image of heaven, and the external man according to the image of the world; insomuch that the internal man is a heaven in the least form, and the external man is a world in the least form, thus is a microcosm.

With man the spiritual world flows into the natural world in so vivid a manner that he can notice it, provided he pays attention. All this shows the nature of the intercourse of the soul with the body, namely, that properly it is the communication of spiritual things which are of heaven, with natural things which are of the world, and that the communication is effected by means of influx, and is according to the conjunction.

Again, using the familiar example of the human body for his model, he shows correspondence, this time at work, in the heart and lungs:

The heart and the lungs are not the love and understanding, but correspondences: They act correspondentially or synchronously, and inasmuch as they are correspondences the one can be seen in the other. (*DLW* 412)

These correspondences will not be found with the microscope, or teased out with the dissection needle. They are beyond the senses, but may

be observed in operation in all things of the universe. What had been Swedenborg's greatest disappointment became his own conatus into a frame of reference where the causes of natural things were evident.

### **End, Cause, and Effect**

Swedenborg's works, then, from his earliest scientific treatises to the final volume of his theological Writings, may be viewed as a distinctive blend of elements. They are constructed partly upon a broad base of philosophical truths, derived from several known sources, including most obviously those of Descartes, Leibnitz, and Wolff. This is the broad base of our pyramid.

There are also many principles which appear to be original with the author, some developed and perfected from his earliest scientific works to serve as foundations for the great theological doctrines to come. Examples of these presented here were the complementary nature of binary matter, degrees of order, and finally the idea (but not the mode of operation) of correspondences. There are others; I have written about Swedenborg's contiguum concept before, tracing it from the matrix for tremulations to the substrate of Divine Providence (*NCL* Jan 1997). These doctrines represent the pyramid's massive body—but as yet the pyramid is still incomplete.

The Doctrine of Correspondence and the concept of the Grand Man of Heaven, however, appear as principles of a very different nature. These ideas did not grow out of Swedenborg's scientific analysis or philosophical reasoning. In fact they would not, despite his greatest efforts, come at all. These principles would come only from revelation, in spiritual visions of Creation, which made obvious those things which were obscure in natural light. And were truly capstone doctrines, glowing from within, with spiritual light, flowing down, illuminating the whole structure, even to its base.

These spiritual principles govern all others, and in fact are essential to a complete understanding of them. This was indeed the universal mathesis, but this time revealed, not derived, to complete the process started so long before.

## CONCLUSION

From this perspective, it is not necessary to cling to any preconceived notion of revelation as exclusive of any natural effort or design. Revelation, or revealed truth, is spiritual truth revealed by any means whatever, in any combination of methods necessary to bring it into natural light. That it comes through human instruments is proof enough of this.<sup>4</sup> The form and origin of the Writings are testimony to the appropriate contributions of intellectual preparation, physical effort, and finally Divine revelation in crucial combination, which together produced a unified New Church cosmology. There is a lesson for all of us, whatever our mission, in this method and in the man who used it so well.

Which Swedenborg wrote the *Principia* and *Regnum Animale*? Was it a different Swedenborg who wrote *Divine Love and Wisdom* and the *Arcana Coelestia*? Where do we draw the line? Is it before or after the *Spiritual Diary*? And what is the Doctrine of Degrees doing in the *Economy of the Animal Kingdom*?

Here is my question: What if we stopped worrying so much about that line, and started thinking like the angels do, about end, cause and effect? Remember? Those who seek out effects are called scientific spirits. Those who enquire into causes are called intelligent spirits. Those who examine ends are called wise spirits. [But] directly above them in heaven are the angels who see causes from the point of view of ends, and effects from the point of view of causes; these angels are the source of enlightenment for [all] three (TCR 570). □

---

<sup>4</sup> Acton, Alfred II, "Paradigms of Revelation," *The New Philosophy* 94 (January–June, 1991): 489–506.