

# ABOUT GOD AND SCIENCE

## A SWEDENBORGIAN PARADIGM FOR SCIENCE

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### INTRODUCTION

For the first 100 years following his death, Emanuel Swedenborg (1688–1772) was considered one of the leading scientists, philosophers and theologians by most scientists and philosophers throughout Europe. But his claim of Divine inspiration for his theological Writings, the shift of many scientists toward agnosticism or atheism, and the rapid pace of scientific discovery that followed have caused all but a few scientists to ignore his works.

More than sixty of Swedenborg's books and pamphlets on science, philosophy and theology have been published in many languages. His scientific and philosophical works anticipated discoveries made over 100 years later in fields as diverse as mining, mechanics, atomic theory, the nebular hypothesis, and anatomy (heart, lungs, and brain). The thirty volumes of his theological works give a new and more rational meaning to traditional Christianity. In my study of his theological writings, hereinafter called the "Writings," I have found many ideas relating religion to science that should not be ignored.

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## Purpose of this thesis

The purpose of this thesis is to identify ideas that are scattered throughout the Writings about the nature of God's universe and how He creates and maintains it, to organize these ideas into tools that can be useful to scientists, and to provide an example showing how to use these tools to interpret scientific discoveries.

A handful of modern scientists with Swedenborgian backgrounds have pioneered in publishing books and articles for the general public relating the Writings to science. Hopefully, these efforts will be followed by future scientists with additional works that are needed to properly expose the Writings to the scientific community. However, in order to be effective, these works should be coordinated so that they build on each other and provide a uniform picture of God's universe.

The void I am attempting to fill is to provide a first pass framework that can be perfected by future scientists, and that will lead to a new science based on the assumption that there is a God, a spiritual world, and a corresponding natural world. Hopefully, this new science will help scientists develop new theories, or, at the very least, help them develop new perspectives on old theories in all areas of science.

I will attempt to fill this void by extracting ideas found throughout the Writings that relate to how God creates and maintains our universe. From them I will formulate a paradigm that leads to a hypothesis and resulting theories that, hopefully, will be useful to the future scientists. This thesis is being published in the following three parts:

**Part I: A Swedenborgian Paradigm for Science** is the *theology* behind God's plan for creating His universe. These ideas are organized into ten rules, here called axioms, because they are self-evident truths to those who believe Swedenborg's Writings are the third part of the Word of God. The axioms are supported by numerous quotations from the Writings to reflect Swedenborg's (the Lord's) intent, and by descriptive text to cast them in a scientific perspective.

**Part II: A Neo-Swedenborgian Hypothesis for Physics**, is the *philosophy* behind the application of the Swedenborgian Paradigm to the physics of the natural world. It is called Neo-Swedenborgian because it is derived from Swedenborg's Writings, but it is not from Swedenborg. This hypoth-

esis applies the axioms from the Swedenborgian Paradigm, which is built on spiritual concepts, to the Neo-Swedenborgian hypothesis which is built on natural concepts. Hopefully, this new hypothesis can be used by modern scientists to revisit modern physical science problems.

**Part III: A Theory for interpreting Quantum Mechanics** is a *semi-scientific* application of the Neo-Swedenborgian Hypothesis to a specific physics problem. It is hoped that this theory will be more believable than the currently popular interpretations of quantum mechanics including “Copenhagen,” “many worlds,” “11 dimensional space,” and “others.” It is also hoped that this new theory will be more compatible with Einstein’s theory of general relativity, leading to a unified theory of everything.

**Appendixes:** Additional information including a biography of Swedenborg, the history of light including the wave-particle duality problem, dark energy, other quantum mechanics interpretations, and a bibliography will be available on my web page and on many other internet sites.

I am fully aware that this paradigm, hypothesis and theory may not prove to be totally correct. But I am hopeful that it will provide a starting point for others that follow who wish to pursue, correct, or expand on my efforts.

## PART I: A SWEDENBORGIAN PARADIGM FOR SCIENCE

### Introduction to Part I

**Galileo Galilei (1600–1670):** “I do not feel obliged to believe that the same God who has endowed us with sense, reason and intellect has intended us to forgo their use.”

**Emanuel Swedenborg (1688–1772):** “*The universe is like a stage, upon which are continually exhibited testimonies that there is a God, and that he is one*” (TCR<sup>1</sup> 12; added emphasis).

**Albert Einstein (1879–1955):** “Science without religion is lame, religion without science is blind.”

**Rt. Rev. George de Charms (1903–1985):** “A New Church (Swedenborgian) science acknowledges that God is immediately present

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<sup>1</sup> See Abbreviated Titles at the back of this issue.

in nature, and that He governs all of its forces. The primary function of this new science is the discovery of the *use* for the sake of which all things exists. *Why* have they been so created? *What* is the Divine purpose in their creation? The answer to these questions lies in the inner truth concerning them . . . Reasoning from this inner truth will produce a *new science* without underestimating the importance of the facts, and without distorting them. It will be a science that freely allows the thought of providence to enter into the laboratory, and to guide one's reasoning in search of the inner truth concerning nature. It will revolutionize all scientific thinking in accord with the Lord's promise at His second advent *to make all things new*" (*New Church Life*, July 1976, 286).

### **The purpose of Part I**

The Purpose of Part I is to extract the teachings found in the Writings that contain God's laws that govern His universe, and mould them into a Paradigm, or world view, for all sciences including the physical, life, and human sciences. This paradigm will include an overview statement and an orderly set of mostly spiritual rules. It will be the foundation upon which to build a hypothesis (in Part II) that in turn can be used to develop theories (in Part III) for solving some of the more perplexing problems found in the physical sciences.

This thesis does not claim to provide scientific evidence to support this paradigm. Although I am inclined to accept it as a matter of faith, the reader should feel free to accept it as a new "guess" that will serve as a foundation for the development of new hypotheses for all sciences. However, the hypothesis of Part II and theory of Part III apply only to the physical sciences. They must ultimately be verified by using the scientific method.

### **Conventions and terms used in this thesis**

For the convenience of the readers, those ideas that are paraphrased directly from the Writings are in bold *italics*. Direct quotations from the Writings will be in conformity with the style of the journal.

The discrete degree relationships “end, cause, effect,” “purpose, means, result,” and “endeavor, force, motion” are equivalent and can be used interchangeably.

The stuff of the overall universe is referred to as “matter.” The matter of the spiritual world is called “spiritual substance,” or simply “substance.” The matter of the natural world is called “natural material,” or simply “material.”

Unless specified otherwise, the word “soul” is used throughout Part I to refer to all of the spiritual and natural characteristics that make people human rather than animal.

The three levels of creation are “Matter,” “Life,” and “Soul.”

### **An overview of the Swedenborgian Paradigm for Science**

The Swedenborgian Paradigm for Science is built from ideas found in Swedenborg’s theological Writings (mostly *Divine Love and Wisdom*, *Heaven and Hell*, and *True Christian Religion*) about the creation process, the organization and structure of the spiritual world, and the projection of the spiritual world onto the natural world (physical universe) through correspondences. I have purposely stayed away from Swedenborg’s philosophical works, because I want Part I to reflect what God says, not what Swedenborg said prior to having his spiritual eyes opened. One example is that in Swedenborg’s search for the primary building block for all natural material, he proposed, in *Principia*, the idea of a “first natural point.” In the Writings this concept is not mentioned. Instead, the Writings use the ideas of trinity, discrete degrees, and correspondences to find the finest substance.

The primary concept taken from the Writings is that everything in the universe proceeds outward from God in His image, to form a “Grand Trinity” consisting of God, the spiritual world, and the natural world, each being discretely different from the other. In God we see the *ends/purposes/endeavors* of the universe. In the spiritual world we see the *causes/means/forces* of the universe. In the natural world we see the *effects/results/motions* of the universe. In the universe, then, we see three equivalent trinities: End, cause, and effect; purpose, means, and result; and endeavor, force, and motion.

This prospective entails acknowledging that everything in the universe has the purpose of supporting a heaven from the human race. It also involves acknowledging that within each general discrete degree of the grand trinity (e.g. the spiritual world) there is a trinity of three particular discrete degrees (i.e. the celestial, spiritual, and natural heavens). And further, that there are an infinite number of continuous degrees of cause and effect within each discrete degree that connect the entire universe into one continuous whole. These ideas and terms will be explained in some detail in the text below each of the ten axioms.

Prior paradigms view the universe from the outside in starting with sense experience embellished by reason. This paradigm views the universe from the inside out, that is, from God through the spiritual world into the natural world. Just as Copernicus changed our perception of the center of the universe from the earth to the sun, Swedenborg has changed it from the sun to God.

In the Writings, God has given us the rules that control the management of the universe. These rules are organized into ten **axioms** that are the heart of “The Swedenborgian Paradigm for Science.”

### **The ten axioms upon which The Swedenborgian Paradigm for science is built**

As with the entire paradigm, the axioms selected are those judged by this author to be most useful in the investigations into all of the sciences. When perfected, these axioms will become the foundation of Swedenborg’s paradigm for science.

1. God creates and maintains the universe with two worlds, the spiritual world and the natural world, for the purpose of having a heaven from the human race.
2. God governs matter, life, and soul through His Divine laws without exception, that is, without violations.
3. God creates a universe where all things in the spiritual world correspond to attributes in Him and all things in the natural world correspond to things in the spiritual world.

4. Trinities are found throughout all of God's creations and each trinity contains three discretely different degrees.
5. Discrete degrees of a trinity are connected as end (or purpose or endeavor), cause (or means or force), and effect (or result or motion), by means of the correspondence of their uses.
6. Continuous degrees within a particular discrete degree are connected as cause and effect to connect all things in the universe.
7. Correspondence is the mechanism that converts influx from God into the active force that drives the end into the cause and through the cause into the effect.
8. Influx from God into all of the matter in the universe, i.e. all elements within the three discrete degrees of spiritual substance and of natural material, is by projection of His Divine love and Divine wisdom through a contiguous chain from the innermost celestial substance outward to the outermost natural material.
9. Influx from God into all elements of life in each of its discrete degrees is by projection of His Divine love and Divine wisdom through the spiritual sun into all life in the spiritual world, and, using correspondences, by projection through the natural sun into the life of all plants and animals in the natural world.
10. Influx from God into soul, and all of its elements in each of its discrete degrees, is through both immediate and mediate influx of His Divine love and Divine wisdom.

Axioms 1 through 3 are general divine laws about how God operates. Axioms 4 through 7 describe divine laws for trinities, discrete degrees, continuous degrees and correspondences respectively that apply to all three spiritual and natural levels of creation—matter, life and soul. In addition, each level has its own unique set of divine laws. Axiom 8 describes laws specifically for matter, axiom 9 for life, and axiom 10 for soul. Each axiom will be described in detail below.

**Axiom 1:** *God creates and maintains the universe with two worlds, the spiritual world and the natural world, for the purpose of having a heaven from the human race.*

The Divine essence itself is love and wisdom. (DLW 28)

It is the essence of Love to love others outside of oneself, to desire to be one with them, and to render them blessed from oneself . . . These essentials of the Divine Love are the cause of the creation of the universe, and are the cause of its preservation. (TCR 43: 5, 46:6)

The universal end (purpose) of creation, or the end in all its constituents, is for an eternal conjunction of the Creator with the created universe to take place, and this is not possible without vessels in which His Divinity can exist as though in itself, thus in which it can abide. For these vessels to be His dwellings or abodes, they must be recipients which will, as though of themselves, elevate themselves to the Creator and conjoin themselves with Him. Without reciprocity, conjunction is not possible . . . These vessels are human beings. (DLW 170)

All things created by the Lord are forms of use, and they are forms of use in the order, degree and respect that they have relation to mankind and through mankind to the Lord from whom they originate. (DLW 327)

. . . The final end in creation is an angelic heaven from the human race. (DLW 330, DP 27, TCR 13:1)

The phrase “Spiritual World” includes heaven, hell, and an intermediate place called the world of spirits where people go immediately after death. “Natural World” refers to everything in the world of nature from the most distant stars to the minutest particles, and the waves and energies within them. People are born into the natural world where they prepare themselves for eternal life. Upon death, they shed their physical bodies to become residents in the spiritual world.



**Axiom 2: *God governs matter, life and soul through His Divine Laws without exception, that is, without violations.***

. . . God cannot act contrary to His own Divine order, since this would be acting contrary to His very self . . . (TCR 500).

. . . things on the earth and in the human body...are not changed except according to the laws of natural order. . . (LJ *post.* 313).

God's Divine laws operate on three levels of creation: *matter, life, and soul*. Matter includes spiritual substances and natural materials. Life includes all micro-organisms, plants and animals found in the spiritual and natural world, as well as the spiritual and physical bodies of human beings. Soul refers to the spiritual and natural faculties that constitute the humanness that separates mankind from the animals including soul, consciousness, mind, free will, judgment, creativity, and the ability to love among others.

### **Concerning miracles**

Let us define "miracle" as an effect or extraordinary event in the physical world performed by God apparently in violation of His own laws for matter, life, and soul. Under this definition, *God does not perform any miracles*. He uses His laws to achieve results that appear to us as miracles. It is left up to us to determine which laws apply, and how they work when analyzing the so-called miracles found in the Bible. For example, the birth of a new human baby appears to us as a miracle, but in fact, it is a systematic application of God's laws that make the birth possible.

Another example is found in Exodus III, 2 & 3, "And the angel of the Lord appeared unto Moses in a flame of fire out of the midst of the bush: and he looked, and behold, the bush burned with fire, and *the bush was not consumed*. And Moses said, I will now turn aside and see this great sight, why the bush is not burnt." Was the fact that the bush did not burn a miracle in violation of God's laws? No. Moses' spiritual eyes were opened so that he could see and hear the angel representing God. The flames were

in the celestial of the spiritual world, not in the natural world. So the real question should be “why didn’t the celestial bush that Moses saw get consumed?” The answer is found in the celestial or supreme sense of the story. When referring to the freeing of Israel from bondage in Egypt, Moses represented the Lord in human form when His glorification was taking place. The bush represented the human or physical body of Jesus. The fire seen in the bush represented the fire of God’s Divine love operating on Jesus to implement His glorification. So, the vision Moses saw represented the glorifying process operating on Jesus. Because Jesus was able to see the fire in its fullness, i.e. at a level higher than the highest heaven, the inmost substance of his natural body was the same as the substance of the fire from Divine love. Therefore Jesus’ celestial body was not consumed by the fire, and the bush did not appear to be consumed to Moses. Note that there is also a spiritual sense to this story relating to man’s regeneration.

It is our job as rational humans to develop rational explanations for all of the “miracles” described in the Bible as I have tried to do here with the burning bush story.

### Concerning prayer

“Prayer, regarded in itself, is speech (or talking) with God” (AC 2535). Note that the key word here is “with” not “to” or “at” God. It is a two-way discussion.

“In order for a prayer to be answered, it must have humility, and it must show concern for one’s own regeneration and the happiness of others.” (See a sermon by Rev. Christopher Smith printed in the May 2005 issue of *New Church Life*).

A prayer to the Lord to stop a pending disaster such as a tsunami or to change the path of a hurricane is not likely to be effective. These types of events are deterministic in the sense that they follow the Divine laws of nature that God has established to make the planet earth inhabitable by mankind. Some of these laws are included in the *axioms* that follow. According to the above *True Christianity* § 500 quotation, God will not perform a “miracle” to stop a tsunami because it would violate His own

laws. (See the article “Tsunami Theology” by Roger s. Murdoch, also in the May 2005 issue of *New Church Life*).

Similarly, any prayer with the only purpose of changing God’s mind will be ineffective because He already knows what is best.

However, prayers of thanks to the Lord for His blessings, of inviting Him to into our lives, of asking Him to help us make the right decisions and of asking Him to help us change the quality of our loves will be effective if sincerely given. They are the essence of a good relationship with God. Also, prayers for others, even if they are not aware of them, can work through spirits to communicate our love and give them hope and strength.

***Axiom 3: God creates a universe where all things in the spiritual world correspond to attributes in Him and all things in the natural world correspond to things in the spiritual world.***

. . . Universal nature is a theater representative of the Lord’s kingdom; thus the Divine is in every particular of the Lord’s kingdom...the Divine continually flows in; for from influx comes endeavor, from endeavor comes energy, and from energy comes effect. (AC 5116:2)

There is a correspondence of everything in our world with heaven, and through heaven with the Lord. (HH 87–115, 125)

The created universe is not God, but from God. And because it is from God, it has in it His image, like the image of a person in a mirror, in which the person indeed appears, but which nevertheless has nothing of the person in it. (DLW 59)

The two worlds, spiritual and natural, are so different that they have nothing in common with each other, and yet have been so created that they communicate—indeed, are conjoined—through correspondent relationships. (DLW 83)

The natural takes its origin from the spiritual, and in its existence is nothing else than a collection brought together by virtue of things spiritual. (CL 320)

The natural world was created to clothe spiritual things as skin clothes the bodies of men and animals. (TCR 78:4)

The natural world draws this characteristic from the spiritual world, and the spiritual world from the Divine. (DLW 293)

**Axiom 4:** *Trinities are found throughout all of God's creations and each trinity contains three discretely different degrees.*

God is one in person and essence, who has in Him a Trinity, and that God is the Lord. The trinity in Him is called the Father, Son and Holy Spirit—the Divine which is the origin of all else being called the Father, the Divine Humanity the Son, and the emanating Divine the Holy Spirit. (DLW 146)

We find in everything created, in the grandest and in the most infinitesimal, (a trinity of) three elements—end (purpose or endeavor), cause (means or force) and effect (result or motion). *There is nothing created that does not have in it these three elements . . .* In the (spiritual) sun, which is the first emanation (from God) of Divine love and Divine wisdom, is found the end or purpose in all things. In the spiritual world are found the causes or means of all things. And in the natural world are found the effects or results of all things. (DLW 154; added emphasis)

Emanate means to flow out, issue, or proceed as from a source or origin; come or send forth, originate, emit.

Several important trinities are listed here:

1. **God as to persons:** Father (God's Soul), Son (God's Mind/Body) and Holy Spirit (God's Divine Proceeding or emanating Divine).
2. **God as to attributes:** Divine Love, Divine Truth, Divine Useful Endeavor.

3. **Bible:** The Celestial, Spiritual and literal senses.
4. **The Universe:** God, Spiritual World, Natural World.
5. **The Spiritual World:** Celestial (inmost), spiritual (intermediate) and natural (outermost) kingdoms that have as their basis celestial, spiritual and natural heavenly (spiritual) substances.
6. **The Natural World:** Innermost, intermediate and outermost degrees that have as their basis in innermost, intermediate and outermost natural materials.
7. **Causality:** end/purpose/endeavor, cause/means/force, effect/result/motion. Causality defines the relationships in all of the above trinities.

“Swedenborg wrote of certain spirits who, listening to music, *‘were so stunned with sheer delights that they said they did not know whether they had been transferred into the innermost heaven . . .’* (SE 2108): from Pastors’ Box, John L. Odhner, *Bryn Athyn Post* 2-2-06.” The phrase “*into the innermost heaven*” strongly implies that the innermost or celestial heaven is interior or within the other heavens, which in turn are within the natural world. From this and other quotations, we see that the universe is made up of countless trinities that emanate from God and contain His ends or purposes for creation. Heaven, that is the spiritual world, is not somewhere in outer space or in a separate but parallel universe as common parlance tells us. Rather, God (ends) is within the spiritual world (causes) that in turn is within the natural world (effects).

***Axiom 5: Discrete degrees of a trinity are connected as end (or purpose or endeavor), cause (or means or force), and effect (or result or motion), by means of the correspondence of their uses.***

There are in the Lord three infinite and uncreated (discrete) degrees of height for the reason that the Lord is love itself and wisdom itself, . . . and because the Lord is love itself and wisdom itself, therefore He is also useful endeavor itself. Love has as its end a useful result which it produces through wisdom. (DLW 230)

Infinite elements in God the Creator, who is Lord from eternity, are, in a distinct combination, one. There are infinite elements in His infinite

elements. In the infinitely infinite elements are degrees of both kinds (discrete and continuous), degrees which in Him are also in a distinct combination one. Moreover, because He has these elements (Divine Love, Divine Wisdom, and Divine Useful Endeavor) in Him, and all things were created by Him, and what He has created exhibits in some image of them the elements that are in Him, it follows that there is not the least finite form which does not have in it such degrees. (*DLW* 22:3)

There are three degrees in the spiritual world, and three degrees in the natural world, hitherto unknown, according to which all influx takes place. [1] . . . there are degrees of two kinds, one in which are things prior and posterior (discrete degrees), and another in which are things greater and less (continuous degrees) . . . [2] . . . discrete degrees are like the generations and compositions of one thing from another, as, for example, of any nerve from its fibers, and of any fiber from its fibrils . . . [3] All and each of the things in both worlds, the spiritual and the natural, are, from creation, in degrees of both these kinds. The whole animal kingdom in this world is in those degrees both in general and in particular; and the whole vegetable kingdom and the whole mineral kingdom likewise; as also is the expanse of atmospheres from the sun even to the earth. [4] There are therefore three atmospheres discretely distinct according to the degrees of altitude, both in the spiritual world and in the natural world, because each world has its sun; but the atmospheres of the spiritual world, by virtue of their origin, are substantial, and the atmospheres of the natural world, by virtue of their origin, are material . . . (*ISB* 16 XIV [1] through [4]). For [5] and [6] see Axiom 10 below.

In every complete thing there is a trine, which is called the first, the middle, and the last, also end, cause and effect. (*TCR* 210)

These three elements must exist concurrently in everything for it to be anything. (*DLW* 167)

That the last degree embraces, contains, and is the foundation of the prior degrees is clearly apparent from the progression of ends and causes to effects . . . the end with all of its constituents, and the cause with all of

its constituents, are actually present in the effect, so that the effect embraces them in their entirety. (DLW 212)

The phrase “discrete degrees” is used extensively in the Writings to mean uniquely different levels of meaning, being, or existence. “Stratum,” “levels,” or “planes of existence” have a similar meaning. The method God uses to create the universe is to inject His purposes into the matter of the universe, to inject life into this matter, and to inject soul into life, all by means of influx from Him through trinities of discrete degrees using correspondences.

The Writings tell us that the effect is made from the cause, and that the cause is made from the end. For example the substance of the natural heaven (effect) is made from the substance of the spiritual heaven (cause) that in turn is made from the substance of the celestial heaven (end). But it is difficult to visualize the “substances” of the natural, spiritual and celestial heavens. There are three degrees of real spiritual substances that provide the basis for the spiritual sun, the basis for the bodies and souls of natural, spiritual and celestial angels, and also provide the building blocks for natural world material. Similarly, within the natural world, there is a correspondent trinity of three distinctly different degrees of natural material that will be discussed in detail the Part II of this thesis. For another view of spiritual substances, see Rt. Rev. Dr. Alfred Acton’s articles in *New Church Life* June 29, 1940 and in *The New Philosophy*, October–December, 1973.

Please note that each element of a trinity, that is each discrete degree, has within it another trinity or set of discrete degrees. Also, each element of a trinity has within it continuous degrees that spread throughout the element. Discrete degrees contain ends, causes and effects while continuous degrees contain only causes and effects. This axiom covers discrete degrees, sometimes called degrees of height.

Discrete degrees are said to be contiguous. The word “contiguous” means “in close proximity without actually touching, but having a correspondent relationship.” “Continuous” means “in immediate connection or relation; uninterrupted in time.” Continuous degrees, sometimes called degrees of breadth, will be discussed in Axiom 6 next.

***Axiom 6: Continuous degrees within a particular discrete degree are connected as cause and effect to connect all things in the universe.***

. . . there are degrees of two kinds...discrete degrees and continuous degrees... But continuous degrees are like the increments and decrements of the same discrete degree . . . (ISB 16 XIV [1]).

Continuous degrees is the term we use for diminutions or decreases in a progression from coarser to finer, or from denser to rarer; or rather they are as the increments or increases in the progression from finer to coarser, or from rarer to denser, precisely as is the case in the progression of light to dark or of heat to cold. (DLW 184)

*The perfection of life, forces, and forms* that increase or decrease according to degrees of breadth, that is, continuous degrees, will not be discussed here, *because there is a knowledge of these degrees in the world*; but only the perfections of life, forces, and forms that ascend or descend according to degrees of height, that is, discrete degrees; because these degrees are not known in the world. (DLW 201; added emphasis)

. . . The spiritual degree is opened by means of a love of uses in accordance with the things of the understanding, although by a spiritual love of uses, which is love towards the neighbor. This degree may grow in like manner by continuous degrees to its height, and it grows by means of knowledges of truth and good, that is, by spiritual truths . . . (DLW 237)

There are an infinite number of continuous degrees within each discrete degree. They are degrees of breadth rather than degrees of height. Examples given in the Writings of continuous degrees at the outermost discrete degree are: hot to cold, high to low, slow to fast, and many more. Since the world's extensive knowledge of continuous degrees is used throughout sciences, they are not discussed in detail in the Writings.

It is the word "forces" in the above *Divine Love and Wisdom* § 201 quote that leads me to believe that continuous degrees at the outermost discrete degree also include the Conservation Laws of physics including the trans-



fer of energy from one object to another continuously as it dissipates throughout the universe.

Things that happen within one discrete degree have only cause and effect relationships to each other, except where there is human (or animal) intervention. Continuous degrees have no purpose driving them. A leaf is blown from the branch of a tree by the wind. Gravity pulls the leaf toward the earth in a direction influenced by the wind and the friction of the air. There is no end (purpose) behind the motion, only cause (wind, gravity, friction) and effect (motion). The leaf's motion is completely deterministic, and we could predict exactly the resulting motion if we knew the direction and magnitude of all of the forces acting on the leaf.

As the will in a person in the (spiritual) natural degree grows in a continuous manner, it reaches a threshold. If it makes a switch from love of self to love of uses, that is, love toward the neighbor, the person is elevated from the natural degree to the spiritual degree. Growth can again proceed in continuous degrees until the next threshold is reached as described in the *Divine Love and Wisdom* § 237 quote above. There is a direct correspondence of this procedure to what happens in science. For example, when the temperature of hydrogen gas in the outermost discrete degree is raised high enough in continuous degrees, it reaches a threshold. A reaction occurs at the intermediate degree that causes fusion of hydrogen into helium (see the discussion on the sun in Axiom 9 below). The energy released is dissipated throughout the universe.

It is the infinite variety of continuous degrees within each discrete degree that tie the parts of the entire universe into one continuous whole.

***Axiom 7: Correspondence is the mechanism that converts influx from God into the active force that drives the end into the cause and through the cause into the effect.***

Endeavor, force and motion operate in conjunction only in accordance with discrete degrees, which are conjoined not through a continuous connection of them, since they are discrete, but through correspondences. For endeavor is not force, force is not motion. Rather, force is produced by endeavor—force being awakened—and motion is produced by force. (*DLW* 218)

The Lord's kingdom is a kingdom of ends which are uses, or what is the same thing, a kingdom of uses which are ends. For this reason the universe has been so created and formed by the Divine that *uses may be everywhere clothed in such a way as to be presented in act or in effect first in heaven and afterwards in the world, thus by degrees and successively down to the outmost things of nature*. Hence it is evident that the correspondence of natural things with spiritual things, or of the world with heaven, is through uses and that uses conjoin. And the forms in which uses are clothed are correspondences and are conjunctions just to the extent that they are forms of uses. In nature, in its threefold kingdom, all things that come into existence in accordance with order are forms of uses, or effects formed from use for use, and this is why the things in nature are correspondences. (HH 112; added emphasis)

I am staying with Swedenborg's term "correspondence" because of the richness in meaning he has given it. You will see in the following paragraphs just how rich this meaning is.

Influx from God is an ongoing, that is, a continuing thing that causes all matter, life, and soul to function as they do. This influx is, in effect, the projection of the use in God's purpose through the spiritual world into the natural world one discrete degree at a time all the way to the outermost degree of material, life and soul of the natural world. This projection from one step to the next is called the correspondence. It is the use of an interior element operating in its environment that resonates with the use of the next more exterior element operating in its environment that activates the "go power," or force, that causes a modification of the exterior element.

### **The connection between correspondence and use**

The relationship between an interior discreet degree and its next more exterior discrete degree is a complex affair. With both the end to the cause and the cause to the effect, there is a certain "go power" which Swedenborg calls "correspondence." This go power is the "resonance" and "reaction" between the use of the more interior element in its environment and the corresponding use of the more exterior element in its environment. This

go power of the correspondence modifies the more exterior element. For example: consider the word "water" that appears in the literal sense of the bible. One use of water is to cleanse the body. The corresponding word "truth" in the inner or spiritual sense cleanses the mind. In other words, God chose the word water to be in the literal sense because it corresponds to truth in the spiritual sense, and His influx was through the correspondence of their uses. Note that there are several different environments in which water appears in the Bible, and each has its own use.

Every element in God's creation works in this way. It has a use that is part of His grand design for a Heaven from the human race. It is through correspondence of the use of a particular interior element with the use of the next more exterior element that the influx from God steers the next more exterior element into fulfilling its use. This is true for all elements of matter, life and soul.

### **End, cause and effect vs. cause and effect**

Most scientists write only about cause and effect. Since they look at the universe from the outside looking inward, that is from sense experience enhanced by reason, they see everything as though it is on one plane, the outermost natural degree. They don't see three discrete degrees in the Swedenborgian sense with endeavors in the inmost degree that steer the forces of the intermediate degree to cause the motion of the exterior degree.

They say that the cause of a billiard ball's motion is the striking of the ball by the tip of the cue stick with the resulting transfer of its momentum to the ball, and the effect is the motion of the ball. They do see that there is a prior end, or purpose, and a cause in the mind of the player when he decides that he wants to win, and that, in order to win, he must move the cue stick to the ball in a particular manor. His decision is translated into an endeavor that affects the force and resulting motion of the cue stick. There are also ends in the innermost degree of material within the ball that cause forces in the intermediate degree to effect in the outermost degree of the ball in such a manner as to give the billiard ball its characteristics of elasticity and of mass that works with gravity to produce friction that

converts kinetic energy into heat energy. The scientists attribute this to the characteristics of the particles, atoms, and molecules in the ball, but can't explain how they got their characteristics.

In the absence of human intervention, as in most physical processes, most scientists since the end of the Aristotelian period believe that there is no purpose inherent in physical material. Processes happen according to physical laws with causes and effects. This is basically the way "continuous degrees" work (see Axiom 6 above).

But with discrete degrees it is a different matter. Swedenborg teaches that every thing in the universe is a trinity with its discrete degrees with their ends as well as causes and effects. The end is at a more interior degree. It provides the motivation that activates the cause at the next higher degree. The cause, in turn, provides the go power that activates the effect at the higher degree. God provides the ends (purposes), the spiritual world provides the causes and the natural world provides the effects. Within the spiritual world the celestial heaven provides the ends, the spiritual heaven the causes and the natural heaven the effects. Similarly, in the natural world, the innermost degree provides the ends, the intermediate degree provides the causes, and the outermost degree provides the effects.

### **The principles of Correspondences**

1. Correspondences apply to all trinities made of three discrete degrees of elements that have the relationship of end, cause and effect.
2. Correspondences apply to the discrete degrees of an overall trinity of elements (generals) as well as to the discrete degrees of a trinity of elements (particulars) within any element of the general trinity.
3. Each element of a trinity has both substance (good) and form (truth), and the form of the more interior element becomes the substance of the next more exterior element.
4. Correspondences make the connection between elements of adjacent degrees through their uses.
5. The use of an exterior element has the same relationship to its environment that the use of the next more interior element has to its environment.

6. There are forces in the interior element that guide the corresponding exterior element.
7. These forces are what control or make possible the uses of the exterior element.
8. These forces are sustained by influx from God.

In summary, things are said to be in correspondence when an element of an interior degree contains the substance that takes the form of the element in the next more exterior degree, when the interior element provides a force that acts on the corresponding more exterior element, when the elements at both degrees are tuned to the same use and when the exterior degree is in obedience to the force from the interior degree.

### Levels of creation

Axioms 4, 5, 6 and 7 above describe trinities, discrete degrees, continuous degrees, and correspondences respectively. They are the general principles that apply to all levels of creation, i.e. to all matter, all life and all soul. In Axiom 8 these principles are applied specifically to matter, in Axiom 9 to life and in Axiom 10 to soul. Figure 1 shows my understanding of the paths that influx from God takes for each of these levels of creation. I am aware that I disagree with the way some others have seen it.

Some say that the parallel mode, which I show only for Life, applies also to Matter and Soul. This is because of implications given in *Divine Love and Wisdom Part Two* and elsewhere that *everything* is created from the Spiritual sun through the natural sun. This idea was reinforced by Rev. Dr. Hugo Lj. Odhner, in his book *Creation*, published by the Academy of the New Church Publication Committee in 1964. He shows, in a figure at the beginning of his book, that *everything* was created by means of emanations from the Lord flowing through the spiritual sun directly into both the spiritual world and the natural sun, and, from these two places, His emanations simultaneously flow into the three degrees of the natural world. This parallel mode works well for putting life into matter, and is used in Axiom 9.

But neither *Divine Love and Wisdom* nor Dr. Odhner make a distinction between the creation of matter, life, and soul. Looking at the Writings as a

whole, I see equally strong statements elsewhere, as quoted above in Axioms 4 through 7, which support the more direct approach to God's influx into matter that is shown as the serial mode in Figure 1. Both approaches can't be correct, so which one should we believe? For one thing, we know from science that hydrogen existed billions of years before the natural sun came into existence. Therefore the natural sun couldn't have been the cause of hydrogen and the rest of natural matter (see Axioms 8 and 9 for more on this).

Also immediate and mediate influx are described throughout the Writings as the way God flows into life to make it human, without mentioning the Spiritual Sun (see Axiom 10 for more on this).

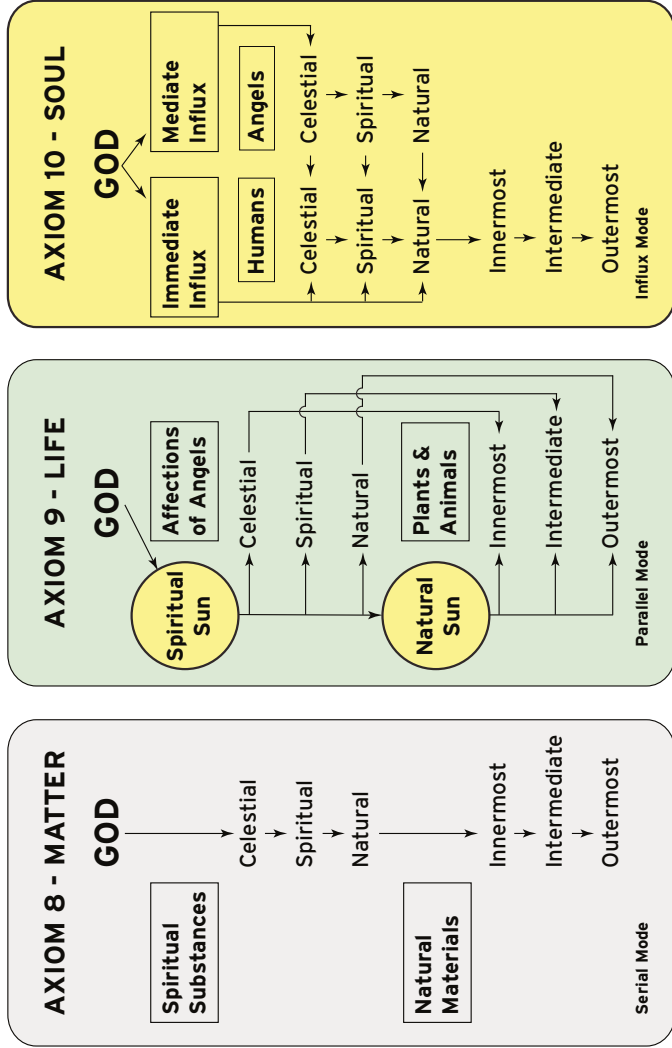
Dividing creation into three levels in this way avoids the apparent conflict between *Divine Love and Wisdom* Part 2 and other parts of the Writings, and at the same time, makes the Swedenborgian Paradigm more compatible with science. Therefore, I conclude that where the Writings say *everything* is created through the spiritual and natural suns, it means *everything that has natural life*. This includes organisms, plants, animals, and the physical bodies of humans.

**Axiom 8:** *Influx from God into all matter of the universe, i.e. all elements within the three discrete degrees of spiritual substance and of natural material, is by projection of His Divine love and Divine Wisdom through a contiguous chain from the innermost celestial substance outward to the outermost natural material.*

The Lord from eternity, who is Jehovah, created the universe and everything in it from himself and not from nothing . . . For nothing is nothing, and to make something out of nothing is self-contradictory . . . (DLW 282)

. . . The Divine is substance in itself or the one and only substance, so it is the substance from which each and all thing have been created, thus that God is the all in all things of the universe...Divine love and wisdom are substance and form in themselves, thus the one and only absolute. Every thing in the universe has been created by Divine love and wisdom. The created universe is consequently an image of Him" (DLW 198)

Figure 1: LEVELS OF CREATION



GRAPHIC BY CRAIG STEEN

... good is the essence of truth, and truth is the form of good ... (TCR 367:3)

... By substance we mean also form, for substance does not exist without form." (DLW 209 last sentence).

See *Divine Love and Wisdom* § 212 included in Axiom 5 above.

### **Spiritual substance and natural material**

Since God is a trinity, everything He creates must be a trinity. Therefore, there is an overall trinity with its discrete degrees and correspondences for the *matter* of the universe. The substance of God contains the purpose of creation. The substances of the spiritual world contain the means for achieving the purpose. The material of the natural world contains the results of the purpose. These substances and materials are not God, but result from emanations from God. These emanations implement Gods purpose which is to provide spiritual and natural bases upon which a heaven from the human race is formed.

Spiritual world *substances* provide the basis for spiritual human life. They also provide the primary building blocks for the spiritual sun and for natural world material that is the ultimate basis for human life on earth. Since spiritual world substances are created in the image of God, they also form a trinity. The innermost spiritual world substance, called celestial substance, corresponds to Divine love, is closest to God, is most active and contains ends. The intermediate spiritual world substance, called spiritual substance, corresponds to Divine wisdom, is farther from God, is less active and contains causes. The outermost spiritual world substance, called (spiritual) natural substance, corresponds to Divine useful endeavor, is still farther from God, is still less active and contains effects. Substances further from God encompass substances that are closer to God, as clothing covers the body. These substances are discretely different from each other, they are connected through correspondences and they form the basis upon which all spiritual activity is founded.

Natural world *material* is made from the outermost (spiritual) natural substances of the spiritual world in a way that corresponds to the way that



celestial substances are made from emanations from God. Natural material is also a trinity that corresponds to the trinity found in spiritual substances. The three discrete degrees of natural material have the relationship to each other of end, cause and effect. As with spiritual substances, the farther we go out from God the more inactive natural material becomes. It is like adding three more layers of clothing on spiritual substance so that the outer most layer brings motion almost to a stop. Spiritual substances and natural materials form a contiguous chain from God outward all the way to the outermost or most exterior degree of natural material, i.e. particles, atoms and molecules. See the serial mode of Figure 1 above.

### **Substance and form**

In each element of a trinity there is a duality of substance and form. Good is substance, truth is form, and truth is the form of good. See *True Christian Religion* § 367 and *Divine Love and Wisdom* § 209 quoted above. Every element must have both substance and form to be anything. The form of an interior element of a trinity becomes the substance of its next more exterior element. Celestial substance/form is the substance of spiritual substance/form, and so on throughout the chain. Consider a handful of silly putty that has been given the shape of a ball. The putty is the substance and the ball is the form that the putty takes. Make a pile of balls, and the balls become the substance and the pile becomes the form. Or if you like, put the balls in a bag and you have the individual balls and the bag as substances and the bag of balls as the form. This is a good way to view this relationship. So we see that there is a natural progression through discrete degrees from God all the way to the outermost degree of physical material, and that there is a duality in each degree that is substance and form.

### **Serial vs. parallel mode**

There are two modes that have been used to view this relationship. I call them the serial mode and the parallel mode.

The *serial mode* is what is described above. There is a contiguous path of matter from God through the spiritual world (celestial, spiritual and natural substances) into natural world (innermost, intermediate and outermost materials). The “go power” (influx) from God is passed from one discrete degree to the next, by means of the correspondential relationship between the uses of each discrete degree, through this path all the way to the outermost degree of natural world material. This is what makes the three degrees of natural material function as they do to give us the glorious world that we live in.

I take this one step further. Any degree of matter from celestial substance to the innermost material can provide the end, with the next farther out degree providing the cause and the next still farther out degree providing the effect. I have found no quote that directly supports or contradicts this concept. But it seems to me that it is implied in the sum total of all of the quotes given above. The serial mode in Figure 1 above illustrates this approach.

The *parallel mode* is quite different. In the parallel mode, influx from God passes through celestial substance directly into the innermost degree of natural material. Similarly, influx passes through spiritual substance into the intermediate degree of natural material, and through (spiritual) natural substance into the outermost degree of natural material. The end, cause, effect relationship in correspondences still holds but is different than in the serial mode. Add the spiritual and natural suns to the parallel mode and you have what is described in *Divine Love and Wisdom* Part Two, in Rev. Dr. Odhner’s book titled *Creation*, and in Figure 1 above under the heading “Life.”

I believe that the path God follows to make the natural world inhabitable for mankind is the serial mode described above. The substance of God, Divine Love, contains His purpose that is a heaven from the human race. Therefore, He needs a heaven built on spiritual substances designed to support human spirits and the spiritual sun. This substance contains the means for creating the resulting material of the natural world designed to support the human race and the natural sun. I believe the parallel mode applies to the creation and maintenance of life, but not for matter, see Axiom 9 below.

### Thoughts on the Deterministic nature of matter

Axiom 2 tells us that God does not violate His own laws of spiritual and natural physics. Since God never changes, His laws, being a reflection of Him, also will never change. This tells me that spiritual substance and natural material will always follow these laws. So, if nothing external to matter is operating on it, its behavior will be deterministic. On the surface, this sounds a bit like Deism—a belief system where God created the universe, but has since remained indifferent to it. But we know that God must continually pump His love into spiritual substance and natural material to keep them working properly.

What external forces are there? Man, in complete freedom, can disrupt the effect of natural laws in several ways. At the outermost degree, he can dig a shovel into the earth and rearrange its material, the dirt. By applying heat he can convert iron ore into steel. He can then apply labor and machines to convert the steel into automobiles. He can cause chemical reactions. He can pollute the air. Man can also disturb material at the intermediate degree through experiments in the physics laboratory or through nuclear explosions. In these cases, the rearrangement of intermediate elements affects the arrangement of the outermost and innermost degrees.

When we cross over to the spiritual world, we find that by correspondence, spirits can affect spiritual substances by changing their thoughts and affections in much the same way that people can affect natural material by the use of force. Try to visualize the implications of this statement. (Spiritual) natural substance is an interior component of natural material. If spiritual substance is changed, is the natural material that is made from the spiritual substance also changed? I think yes. But there must be some controls that keep evil spirits from messing up the world and that restrict the kind of changes good spirits can make. We could speculate that God may have performed some of the biblical miracles by influencing Angels to fine tuning spiritual substances which in turn would fine tune natural materials without violating any of His spiritual and natural laws. It is also possible that the evolution of life forms is guided in part by God's mediate influx through angels to cause the required mutations. Some readers may have ideas on this subject.

**Axiom 9: *Influx from God into all elements of life in each of its discrete degrees is by projection of His Divine love and Divine wisdom through the spiritual sun into all life in the spiritual world, and, using correspondences, by projection through the natural sun into the life of all plants and animals in the natural world.***

The Lord from eternity, or Jehovah, produced from himself the son of the spiritual world, and out of it created the universe and all of its constituents . . . (DLW 290)

The sun of the spiritual world is not the Lord. Rather . . . it is an emanation of His Divine love and wisdom. We call it an emanation because that sun was produced by Divine love and wisdom, which in themselves are substance and form, and the Divine emanates by means of it . . . The case is similar to that with the atmosphere of affections and consequent thoughts which encompasses every angel, by which his presence is manifested to others near and far. This encompassing atmosphere is not the angel himself, but something arising from each and every part of his body, from which substances continually emanate like a stream; and the substances which emanate envelop him. Moreover, being continually activated by his heart and the lungs, these substances immediately enveloping his *body stir the surrounding atmospheres* into like activities, and in consequence of it produce in others a perception as though of his presence. Thus there is not some other atmosphere of affections and consequent thoughts which emanate and extend from him, even though it is so called, because affections are only states of the forms of the mind within. . . . Furthermore, every angel has such an atmosphere about him because the Lord has one about Him . . . The atmosphere about the Lord is in like manner from Him, and that atmosphere is the sun of the spiritual world. (DLW 291; added emphasis)

God's omnipresence in his design from beginning to end is a function of the heat and light from the sun that surrounds God in the spiritual world. The divine design was created through this sun. From it God sends forth a heat and a light that pervade the universe from beginning to end. *That heat and that light give life to humankind, to every animal and to every*

*germinating vegetable on the earth.* The two flow into every single thing and cause it to live and grow according to the design assigned to it upon creation. (TCR 63; added emphasis).

See also, *Divine Love and Wisdom* § 154 quoted in Axiom 4 above.

### **Role of the spiritual and natural suns**

When searching for the inner meaning of a passage in the Lord's word, we start with the literal or outermost sense, and use the correspondences rules given in the Writings to work out the inner meaning. Since we have established above that everything in the natural world corresponds to things in the spiritual world, we can follow a similar procedure to learn about the spiritual sun from our knowledge about natural sun.

Our natural sun is made primarily of the gaseous material elements, at first hydrogen and later hydrogen and helium, each having three discrete degrees of material within them as described in Axiom 8 above. These original hydrogen atoms existed billions of years before our sun was created as did the laws of physics that God used to create our sun. The force of gravity pulled these elements into a nucleus, generating the heat required to cause a continuous stream of nuclear fusions. Each individual fusion, after several intermediate steps, results in the merging of two hydrogen atoms into one helium atom, while giving off byproduct energy in the form of neutrinos and gamma rays. The gamma rays eventually work their way outside the sun, while losing energy on the way, to become the photons that produce the natural heat and light we observe coming from the sun.

Our planet earth was made from clusters of heavier elements that scattered from the explosion of supernovae billions of years ago. Some of these clusters formed into our solid planet by their own gravity. Earth was attracted into its orbit around our sun by our sun's gravity. Supernovae are very large stars that emit 10 to 100 million times the amount of light that is emitted by our sun. They generate enough heat to cause the fusion of hydrogen into the heavier elements we find on earth. Eventually they explode.

Through correspondence with the natural sun, we see that the spiritual sun is made from spiritual substances in three discrete degrees that in turn are made from Divine love, wisdom, and use emanating from God. The emanations, referred to in the above quotes, provide the power (spiritual gravity) that reacts with the substances of the spiritual sun to pull them together to generate the spiritual heat and light required to sustain the spiritual life of plants, animals and the spiritual bodies of angels.

This concept does support the claim made in the Writings that the spiritual sun is not God, but emanations from God. It *does not* support the Writings' claim that *everything* in the universe was created by God through the spiritual sun into the spiritual world and natural sun and through the natural sun into everything in the natural world. Natural material, for example, could not possibly have been created from the natural sun because the natural sun was made from natural material that was created billions of years before the natural sun. Similarly, through correspondence, spiritual substance could not have been created from the spiritual sun (there must have been changes of state in the spiritual world corresponding to the time laps in the natural world).

But this approach *does* support the Writings if we interpret the word "*everything*" as meaning *all life* including organisms, plants, animals and the physical bodies of humans as stated in Axiom 8 without much explanation. My current belief is that this is the correct interpretation.

***Axiom 10: Influx from God into soul, and all the elements in each of its discrete degrees, is through both immediate and mediate influx of His Divine love and Divine wisdom.***

[5] . . . there are three angelic heavens: a highest (celestial), which is also called the third heaven, where are the angels of the highest degree; a middle (spiritual), which is also called the second heaven, where are the angels of the middle degree; and a lowest ((spiritual)natural), which is also called the first heaven, where are the angels of the lowest degree. Those heavens are also distinguished according to the degrees of wisdom and love. Those who are in the lowest heaven are in the love of knowing truths and goods; those who are in the middle heaven are in the love of

understanding them; and those who are in the highest heaven are in the love of being wise, that is, of living according to those things that they know and understand. [6] Since the angelic heavens are distinguished into three degrees, therefore the human mind is also distinguished into three degrees, because the human mind is an image of heaven, that is, it is a heaven in the least form. Hence it is that man can become an angel of one of those three heavens, and this is effected according to his reception of wisdom and love from the Lord: an angel of the lowest heaven if he receives only the love of knowing truths and goods; an angel of the middle heaven if he receives the love of understanding them; and an angel of the highest heaven if he receives the love of being wise, that is, of living according to them . . . (*ISB 16 XIV*) For *ISB XIV* [1] – [4] see Axiom 5 above.

. . . the Lord conjoins all the heavens by immediate and mediate influx, by immediate influx from Himself into all the heavens, and by mediate influx (that is effected through spirits) from one heaven into another. He thus makes the three heavens to be one, and all to be in such connection from the First to the last so that there is nothing that is not connected . . . The Lord's influx into the interiors of man is in similar order. Immediate influx of the Divine is from the Lord. Mediate influx is through the spiritual world into the natural world . . . [This Divine influx is unceasing] (*HH 15, 297*)

. . . communication between angels of the higher and lower heavens takes place only through correspondences, which have existence by immediate influx of the Lord into all the heavens, and by mediate influx through the highest heaven into the lowest . . . (*DLW 202*)

Three degrees of height exist in every person from birth and can be progressively opened, and as they are opened, the person is in the Lord and the Lord in him. The fact that there are in every person three degrees of height has not been known before. The reason is that these degrees have gone unrecognized, and as long as these degrees have escaped notice, the only degrees that could be known are continuous degrees; and when these are the only degrees known, one may believe that love and

wisdom in a person grow only by a continuous progression. It should be known, however, that every person has in him from birth three degrees of height or discrete degrees, one above or within another. Moreover, each degree of height or discrete degree contains as well degrees of breadth or continuous degrees, according to which it grows through a continuous progression. For degrees of both kinds exist in the greatest and least of all things. Indeed, a degree of the one kind cannot exist without the other. (DLW 236)

Throughout Part I above, the word “soul” has been used to refer to all of the spiritual and natural characteristics that make people human rather than animal. But in the next paragraph, I refer to the spiritual soul and the natural soul. The spiritual soul includes the three discrete and continuous degrees (celestial, spiritual and natural) of the human mind that reside in the spiritual world. The natural soul is the innermost degree of the natural mind. The natural mind accordingly includes the natural soul, the mind/body and the useful endeavor.

Immediate influx from God flows directly into the spiritual soul and into the natural mind. Mediate influx from God flows through the angels and spirits into the spiritual soul and the natural mind. This is pictured in Figure 1 above under the heading Axiom 10 – Soul.

In order to find heaven we must look within, and to find God, we must look still farther within.

### **Concepts requiring further investigation**

During the process of forming the above axioms, a number of problems have arisen with my understanding of what the Writings are saying, and with my reconciling what I think they are saying with what I think science is saying. A few examples of these conflicts are presented here.

1. Are the paths for influx from God in Figure 1 shown correctly? If not, how should they be modified?
2. Does the form of one discrete degree become the substance of the next exterior degree as described in Axiom 8? If yes within the spiritual



world and within the natural world, does it also apply to the gap between the two worlds?

3. Are spiritual substances and natural materials deterministic as described in Axiom 8?
4. Can spirits and angels change the arrangement of spiritual substances with their thoughts and affections in a way corresponding to the way humans can cause changes to natural materials as described in Axiom 8? If yes, do their changes in turn change the arrangement of natural material?
5. Does the end, cause, effect relationship for celestial substance, spiritual substance, and (spiritual) natural substance also apply to spiritual substance, (spiritual) natural substance, and natural innermost material as described in Axiom 8—serial mode?
6. Do continuous degrees apply to the conservation laws of physics in the outermost degree, do they have a cause and effect relationship, and do they tie the universe together into a continuous whole as stated in Axiom 6?
7. Are successive and simultaneous orders the same as discrete and continuous degrees? If not, how do they differ? (See *DLW* 205).
8. How do atmospheres relate to discrete degrees of substances and materials? Are they the medium for propagation of sound (air) and sight (ether or dark energy or a vacuum)? Do they play a role in holding the universe together? Are still finer atmospheres needed to propagate thought? (See *DLW* 176).
9. Are the radiant belts seen by angels made of real spiritual substance or are they imaginary? If real, what role do they play in the path of influx from God? There are only two references to radiant belts (sparkling halos) in the Writings: *Heaven and Hell* § 120 and *Arcana Coelestia* § 7270:2, 3.

### Part I Summary and conclusions

The Swedenborgian Paradigm for science has two sections. The first section changes the way we view the universe, from the outside looking into the natural world through sense experience modified by reason, to the

inside looking out from God through the spiritual world into the natural world. The second section is a list of ten Divine laws, called axioms that govern the creation and maintenance of the universe. They reflect my current understanding of concepts, found in Swedenborg's theological writings, which apply to the way God has structured the universe, and how He manages it.

My goal in studying and writing on this subject is not to convert anyone to my religious views, but rather to show the world that there are insights and ideas buried in the theological writings of Swedenborg that have the potential be useful to science, and therefore are worthy of further study. I do not expect all modern physicists to jump into studies on the role that spiritual substance plays in the creation of natural material. But during the last ten to twenty years many scientists have begun to question the origin of matter, life, and consciousness, the nature of the four major forces, and much more. New books are being published continually by scientists who wonder what kind of creative force is behind it all. They do not all call it God, but what they are saying sounds to me like God.

This document is not meant to be the final word on how God creates our universe. It is hoped that it will become the foundation upon which other scientist/scholars will correct, modify expand it until there is a consensus that it genuinely reflects God's plan for managing the universe. I sincerely hope for feedback from you readers on any part of this document so that it can be improved to become more useful. Please respond to [vance@genzlinger.com](mailto:vance@genzlinger.com).

(End of Part I)