

"Aug 21, 1976"

Conservation is Perpetual Creation
a presentation on how to see the spiritual in the natural.
Andrew James Heilman – October 12th, 2019
Theistic Science Symposium

The only difference between a spiritual bird and a natural bird.

DLW 344. I heard two presidents of the English Royal Society, Sir Hans Sloane and Martin Folkes, conversing together in the spiritual world about the existence of seeds and eggs, and about productions from them in the earths. The former ascribed them to nature, and contended that nature was endowed from creation with a power and force to produce such effects by means of the sun's heat. The other maintained that this force is in nature unceasingly from God the Creator.

To settle the discussion, a beautiful bird appeared to Sir Hans Sloane, and he was asked to examine it to see whether it differed in the smallest particle from a similar bird on earth. He held it in his hand, examined it, and declared that there was no difference. He knew indeed that it was nothing but an affection of some angel represented outside of the angel as a bird, and that it would vanish or cease with its affection. And this came to pass.

By this experience Sir Hans Sloane was convinced that nature contributes nothing whatever to the production of plants and animals, that they are produced solely by what flows into the natural world out of the spiritual world. If that bird, he said, were to be infilled, in its minutest parts, with corresponding matters from the earth, and thus fixed, it would be a lasting bird, like the birds on the earth; and that it is the same with such things as are from hell. To this he added that had he known what he now knew of the spiritual world, he would have ascribed to nature no more than this, that it serves the spiritual, which is from God, in fixing the things which flow in unceasingly into nature.



SIR HANS SLOANE'S BIRD
An article by Rev. GEORGE DE CHARMS
New Church Life 1982

“The teaching concerning Sir Hans Sloane's bird, recorded in Divine Love and Wisdom 344, is of tremendous importance to the New Church. It applies to all living creatures that have ever been created on the earth, and indicates how they are to be regarded as representative forms of use.”

After quoting DLW 344 he writes:

“It is the constant teaching of the Writings that material substances are not part of the living embodiment of any organism that is grown from seed. The function of the mineral kingdom is to clothe, fix and render permanent the real living body of any vegetable or animal creation. The real body of any living creature is a representative form of use.



“If we identify the living organism with the material substances that clothe it, we fail to see the Divine purpose for which it is created. We regard it then as a marvelous mechanism that has no connection with the Divine Source of life. It conveys no message of love and wisdom from God to men, and performs no spiritual or eternal use to mankind.”



Comment: When we look at a bird, or anything else in this world we are seeing something in the spiritual world, and yet clothed with natural material or chemicals. This is what Sir. Hans Sloane learned when he saw a bird in the spiritual world which was virtually identical to a bird in the natural world, perhaps the hummingbird of Jamaica which he called “the most beautiful bird he ever saw.”

What natural material does to fix reality, and yet in some ways diminish it.

AE 1218 All the objects in the spiritual world are similar [to those in the natural.] ... the things which are seen and felt there are not material, but substantial from a spiritual origin, and that they are notwithstanding still real, because they exist from the same origin as all the things in the natural world. The only difference is that an additional covering, an over-garment, so to speak, from the sun of the world, has been given to the things which exist in the natural world, and from this they have become material, fixed, stated, and measurable. I can positively affirm that the things which exist in the spiritual are even more real than those in the natural world; for that which in nature is added to the spiritual is dead, and does not produce reality, but diminishes it.

AE 1209 The mineral kingdom is simply a storehouse, in which are contained and from which are taken the things of which the forms of the other kingdoms, the animal and the vegetable, are composed.

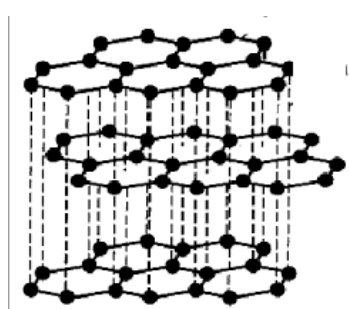
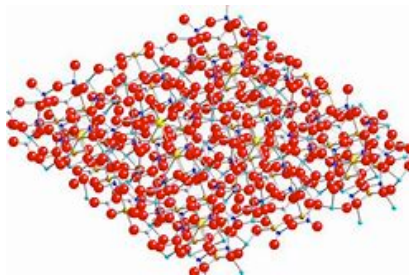
The image shows a standard periodic table of elements. It includes labels for various groups and series: Group 16 (Oxygen group), Group 15 (Nitrogen group), Group 14 (Carbon group), Group 13 (Boron group), Group 12 (Zinc group), Group 11 (Copper group), Group 10 (Nickel group), Group 9 (Cobalt group), Group 8 (Iron group), Group 7 (Manganese group), Group 6 (Chromium group), Group 5 (Vanadium group), Group 4 (Titanium group), Group 3 (Scandium group), Group 2 (Alkaline Earth metals), Group 1 (Alkali metals), Group 18 (Noble gases), Group 17 (Halogens), Group 16 (Chalcogens), Group 15 (Pnictogens), Group 14 (Tetrels), Group 13 (Triels), Group 12 (Dibels), Group 11 (Monobels), Group 10 (Decabels), Group 9 (Nonabels), Group 8 (Octabels), Group 7 (Septabels), Group 6 (Hexabels), Group 5 (Pentabels), Group 4 (Tetrabels), Group 3 (Triabels), Group 2 (Dyabels), Group 1 (Monobel).

Comment: Thus the elements are not unlike the lumber, and other materials, gathered to build a house. This can be seen by looking at a ruby, a diamond and graphite. Although a diamond and graphite are both made of Carbon, in many other ways the ruby (mostly Al_2O_3) and a diamond have much more in common, including their correspondence.

Ruby

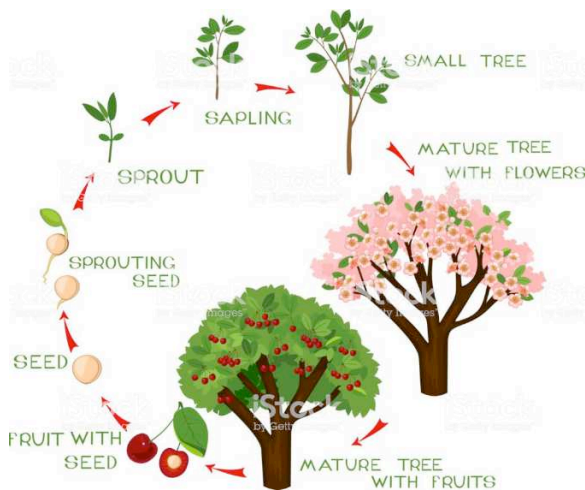
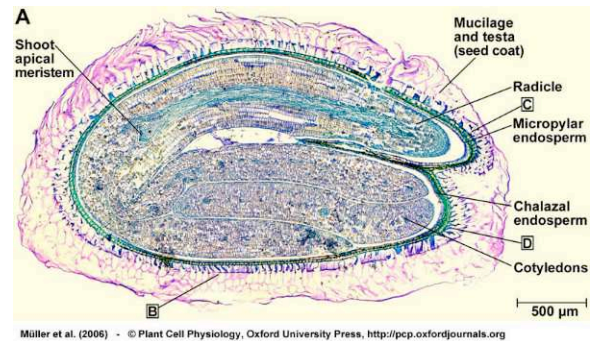
Diamond

Graphite



Who can fail to see the Divine in these things? (Div. Prov. 3)

That the universe, with each thing and all things of it, was created from the Divine love by means of the Divine wisdom can be confirmed by all things submitted to sight in the world. Select any particular object and examine it with some wisdom, and you will be convinced. Take a tree, or its seed, its fruit, its flower, or its leaf, gather up the wisdom that is in you, examine the object with a good microscope, and you will see wonderful things; while the interiors that you do not see are still more wonderful.



Observe the order in its development, how the tree grows from seed even to new seed, and consider whether there is not at every successive step a continual endeavor to propagate itself further; for the final thing to which it aims is seed, in which its reproductive power exists anew. And if you are willing to think spiritually, which you can do if you wish, will you not now see wisdom here?

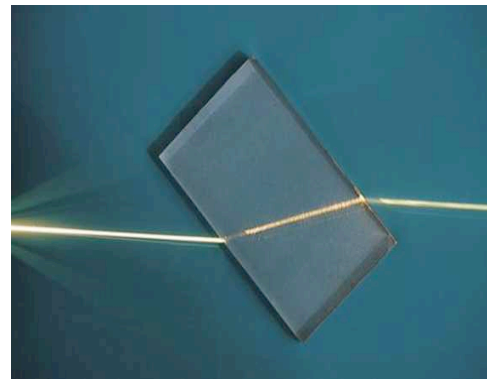
Moreover, if you are willing to go far enough in spiritual thought, will you not see also that this power is not from the seed, nor from the sun of the world, which is pure fire, but is in the seed from God the Creator, whose wisdom is infinite; and in it not only at the moment it was created, but continually afterwards? For conservation is perpetual creation, as subsistence is perpetual existence [or coming forth].

In fact, every such created thing is endowed with power; but power acts not from itself, but from Him who bestowed the power. Examine any other object on the earth, as a silkworm, a bee, or any other little creature; look at it first naturally, afterwards rationally, and at length spiritually, and if you are able to think deeply, you will be astonished at it all; and if you will let wisdom speak within you, you will say in amazement, "Who can fail to see the Divine in these things? All things are of the Divine wisdom."



An example of seeing the Divine Wisdom in the Natural World
 The Principle of Least Action - first proposed by Louis Maupertuis

“Now I have to define what I mean by "action". When a material body is transported from one point to another, it involves an action that depends on the speed of the body and on the distance it travels. However, the action is neither the speed nor the distance taken separately; rather, it is proportional to the sum of the distances travelled multiplied each by the speed at which they travelled. Hence, the action increases linearly with the speed of the body and with the distance travelled. This action is the true expense of Nature, which she manages to make as small as possible in the motion of light.



“One cannot doubt that everything is governed by a supreme Being who has imposed forces on material objects, forces that show His power, just as he has fated those objects to execute actions that demonstrate His wisdom. ... To unify the certainty of our research with its breadth, it is necessary to use both types of study. Let us calculate the motion of bodies, but also consult the plans of the Intelligence that makes them move.

“It seems that the ancient philosophers made the first attempts at this sort of science, in looking for metaphysical relationships between numbers and material bodies. When they said that God occupies himself with geometry, they surely meant that He unites in that science the works of His power with the perspectives of His wisdom.”

How we see is a matter of choice.

Thought from the eye closes the understanding, but thought from the understanding opens the eye. (DLW 46).

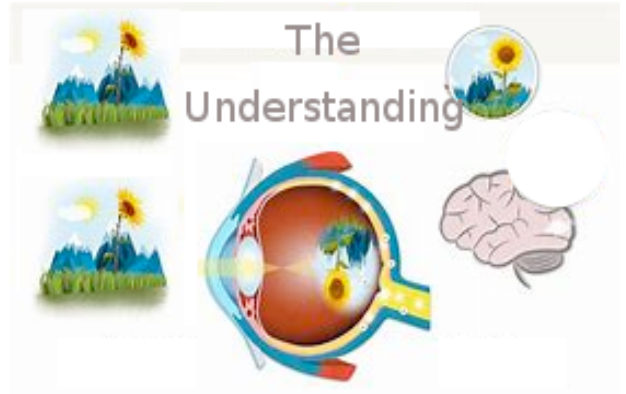
Faith is the eye of love (AC 3863:12).

The necessity of the affirmative principle. (AC 127-129, 2568, 2588, 6047, etc.).



Does the eye see? AE 1146:4-5
A force from within and a force from outside.

The sensory of sight, which is the eye, sees objects out of itself as if it were close by them, when, in fact, the rays of light convey with wings of ether their forms and colors into the eye, and these forms when perceived in the eye are observed by an internal sight that is called the understanding, and are distinguished and recognized according to their quality. ... The five bodily senses by virtue of an influx from within are sensible of what flows in from outside; the influx from within is from the spiritual world, and the influx from outside is from the natural world.



With all this the laws inscribed on the nature of all things are in harmony, which laws are:

That nothing exists or subsists from itself, or is acted upon or moved by itself, but only by something else. From this it follows that everything exists and subsists and is acted upon and moved by the First that is not from another, but is in itself the living force, which is life.

That nothing can be acted upon or moved unless it is intermediate between two forces, one of which acts and the other reacts, that is, unless one acts on the one side and the other on the other, and unless one acts from within and the other from without.

And since these two forces when at rest produce an equilibrium, it follows that nothing can be put in action or moved unless it is in equilibrium, and when put in action it is out of the equilibrium; also that everything put in action or moved seeks to return to an equilibrium.

That all activities are changes of state and variations of form, and that the latter are from the former.

Comments: There is at first glance a similarity between the first three laws above, and the three laws on motion proposed by Sir Isaac Newton, but a closer view will show they are quite different. Newton's laws are concerned mostly with the external force on a body, whereas these laws inscribed on the nature of all things, speak of a force from within and a force from outside. This equilibrium can be seen more clearly in Newton's second law, as rewritten by d'Alembert, as a "dynamical equilibrium": $F - ma = 0$. In many ways the last of these laws anticipates quantum mechanics (see also AE 726).

AE 1209 The three forces found in all of creation,
“the active, the formative and the formative.”

The active force, because it is spiritual, proceeds from the fountain of all forces, which is the sun of heaven, and that is the Lord's Divine love, and love is the active itself, from which the living force which is life proceeds.

TCR 472 The following things are not creatable, namely:

- (1) The infinite is not.
- (2) Love and wisdom are not.
- (3) Consequently life is not.
- (4) Light and heat are not.
- (5) Even activity itself viewed in itself is not.



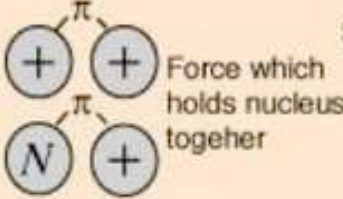
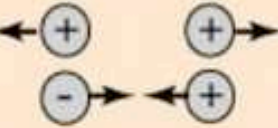
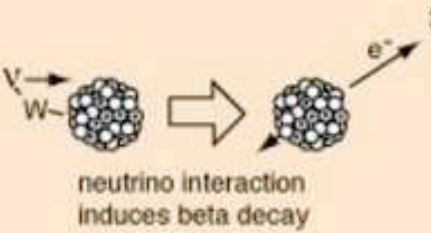
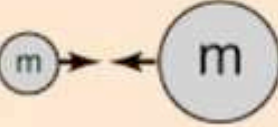
AE 1209 (cont.) The creative force is the force that produces causes and effects from beginning to end, and reaches from the First through intermediates to the last. The First is the sun of heaven itself, which is the Lord; intermediates are things spiritual, afterwards things natural, also things terrestrial, from which finally are productions.

And as in the creation of the universe that force proceeded from the First to the last, so afterwards it proceeds in like manner in order that productions may be continual; otherwise they would fail. For the First continually regards the last as an end; and unless the First looked to the last continually from itself through intermediates according to the order of creation, all things would perish; therefore productions, which are especially animals and plants, are continuations of creation.

It does not matter that the continuations are effected by seeds, it is still the same creative force that produces. Moreover, it is according to the observation of some that certain seeds are yet being produced.

AE 1209 (concl.) The formative force is the last force from ultimates, for it is the force that produces animals and plants from the ultimate materials of nature, which are collected in the earth. The forces that are in nature from its origin, which is the sun of the world, are not living forces but dead forces. These do not differ from the forces of heat in man and animal, which keep the body in such a state that the will by means of affection, and the understanding by means of thought, which are spiritual, can flow in and do their work in it. They do not differ from the forces of light in the eye, which simply cause the mind, which is spiritual, to see by means of its organ, the eye. The light of the world sees nothing, but the mind by the light of heaven. The same is true of plants. He who believes that the heat and light of the sun of the world do anything more than open and dispose the things proper to nature that they may receive influx from the spiritual world is very much deceived.

Fundamental Forces

<i>Strong</i>		Strength 1	Range (m) 10^{-15} (diameter of a medium sized nucleus)	Particle gluons, π (nucleons)
<i>Electro-magnetic</i>		Strength $\frac{1}{137}$	Range (m) Infinite	Particle photon mass = 0 spin = 1
<i>Weak</i>		Strength 10^{-6}	Range (m) 10^{-18} (0.1% of the diameter of a proton)	Particle Intermediate vector bosons W^+ , W^- , Z_0 . mass > 80 GeV spin = 1
<i>Gravity</i>		Strength 6×10^{-39}	Range (m) Infinite	Particle graviton ? mass = 0 spin = 2

Comment: In today's Physics these are considered the four fundamental forces. Scientists have succeeded to some extent to unite the first three into a unified field theory, but the force of gravity is still something of an outlier, and quite different from the other three forces.

We find quite a different idea in Swedenborg's Principia, were instead of forces all in the same plane and acting somewhat parallel to each other, we find instead five elements related to the forces one within another.

The five elements described in Swedenborg's Principia

The Universal Element – the vortex of the sun – gravity

The second element – around the earth – magnetism

The third element – related to light and electricity

The fourth element – the air

The fifth element – water vapor

The first within the second, the second in the third and so on.

Four Natural Spheres - SD 222

There are four natural spheres arising from the sun.

The atmosphere which produces hearing is known; [AIR]

A purer atmosphere separate from the aerial is that which produces sight or visual images by the wonderful reflections of all objects. [ETHER AND LIGHT]

Another atmosphere - the still purer ether - is that which produces the forces of magnets, which reign not only about the magnet in particular, but also about the whole globe, but there is no need to describe to what extent. [MAGNETISM]

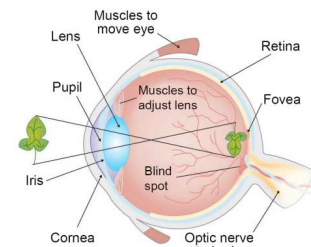
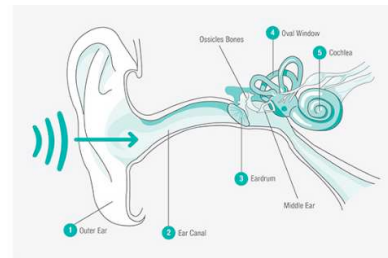
The purest ethereal sphere is the one that is universal in the whole world, ... [GRAVITY?]

These spheres are of the sun, and may be called solar, and thus natural.

(See also SD 418, where it says, “Permissions in heaven are represented in nature by the threefold, or fourfold atmospheres, the one purer than the other according to degrees, the one that follows being compounded from the prior, which acts proximately upon the compound within and without.”)

Comment: It is worth noting that the early Diary is half way between the five elements of the Principia, and the three natural atmospheres spoken of so clearly in the work Divine Love and Wisdom. Although the Arcana Coelestia does not speak directly of three natural atmospheres it does teach clearly about the air for sound and the ether for light.

AC 5423 Everyone who has any knowledge of air and sound may know that the ear is formed in precise adaptation to the nature of their modifications, thus that in respect to its bodily and material form, the ear corresponds to them; and he who has acquired any knowledge of the ether and light, knows that in respect to its bodily and material form, the eye has been formed so as to correspond to the modifications of these; and that this is so much the case that whatever secret thing has been stored up in the nature of air and of sound is inscribed on the organism of the ear, and whatever secret thing has been stored up in the nature of the ether and of light is inscribed on the organism of the eye.



The three natural atmospheres or ethers
(Last Judgment Posthumous 320 and DLW 302)

LJP 320 There are three natural atmospheres arising from the sun of the world, and there are three spiritual atmospheres arising from the sun of heaven, which is the Lord. The three natural atmospheres arising from the sun of the world are the purer ether, which is universal, from which is all gravitation; the middle ether, which forms the vortex around the planets, in which are the moons and the satellites, from which is magnetism; and the ultimate ether which is the air. By these three atmospheres all the corporeal and material things of the earth are held together, which are so composed as to be applicable to those three degrees.

Comment: This teaching, tucked away in a manuscript, together with two other unpublished works of the Heavenly Doctrine, brings together, for the first time light and magnetism. Swedenborg's personal system, which he still held in the early Diary, had these as two distinct forces, or atmospheres, or elements, but in this teaching, in correspondence with the three degrees of heaven, and the trine of good, truth and use, we find that magnetism and light both relate to the middle atmosphere, and the idea of truth.

It is worth noting that the force of gravity always attracts, and the force of air, pressure always pushes away, and that this middle force, light, or electric and magnetic forces, can either push or pull. It is also easy to see the correspondence of love in the force of gravity, which like love always attracts, and if we compare good to mass, the more good each has, the greater the attraction.

We find something similar to this teaching in the work *Divine Love and Wisdom*, although we do not find gravity and magnetism explicitly mentioned:

DLW 302. The atmospheres, of which there are three both in the spiritual and in the natural world, in their outmosts close into substances and matters such as are in lands.

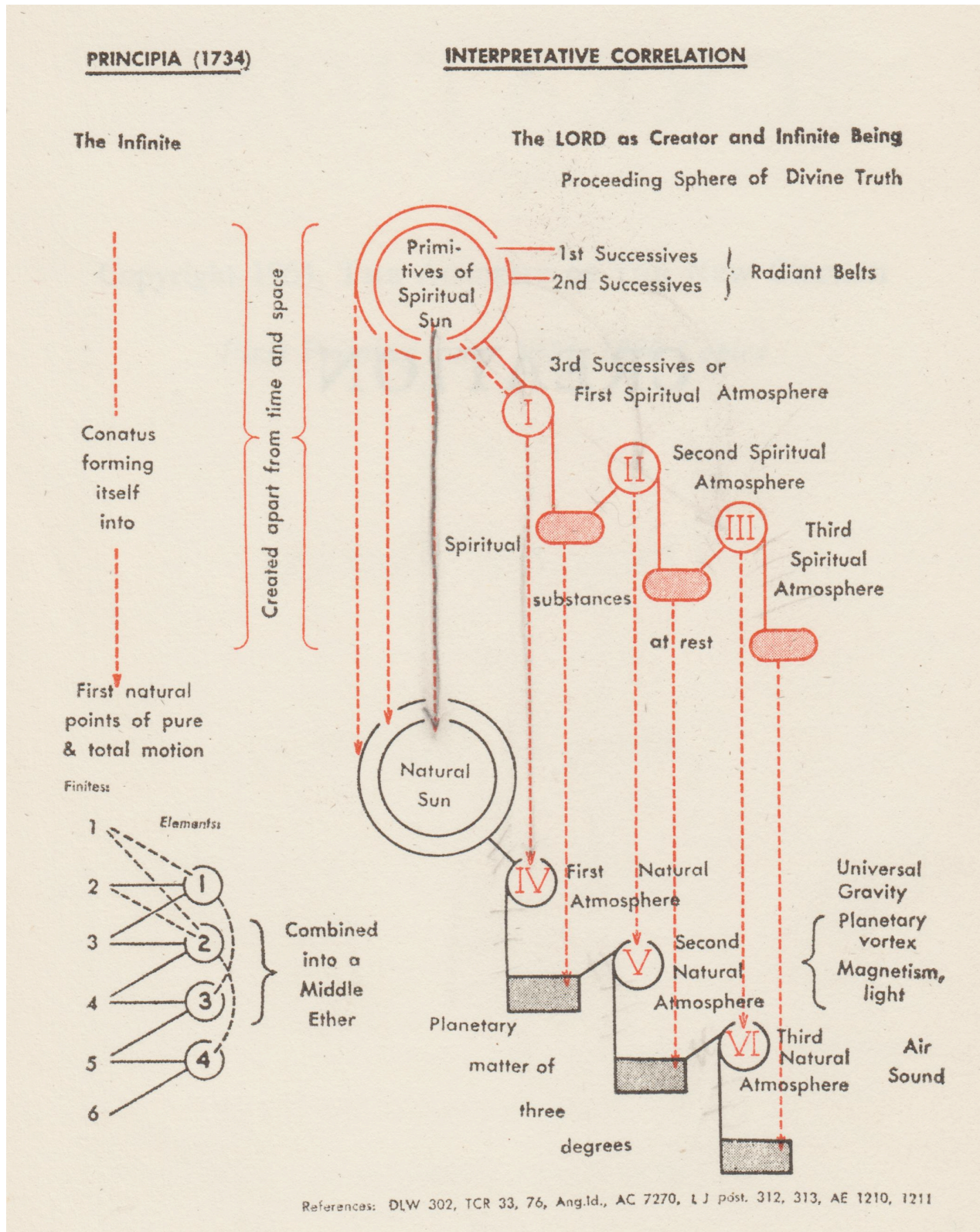
It has been shown in Part Third (n. 173-176), that there are three atmospheres both in the spiritual and in the natural world, which are distinct from each other according to degrees of height, and which, in their progress toward lower things, decrease [in activity] according to degrees of breadth.

And since atmospheres in their progress toward lower things decrease [in activity], it follows that they constantly become more compressed and inert, and finally, in outmosts, become so compressed and inert as to be no longer atmospheres, but substances at rest, and in the natural world, fixed like those in the lands that are called matters.

As such is the origin of substances and matters, it follows, first, that these substances and matters also are of three degrees; secondly, that they are held together in mutual connection by encompassing atmospheres; thirdly, that they are fitted for the production of all uses in their forms.

Seeing or understanding the active and creative forces within the formative forces in the natural world.

In the beginning of the book entitled *Creation* by Dr. Hugo Odhner we have the following diagram which gives us a summary of the process of creation from the Lord through the three spiritual degrees into the three natural degrees:



The difference between the three spiritual degrees in the spiritual world, and the three spiritual degrees when fixed by the three physical degrees.
(The difference between a bird in the spiritual world and a bird in the natural world.)

LJP 321 But it should be known, that the atmospheres arising from the sun of heaven, which is the Lord, properly speaking, are not three, but six, there are three above the sun of the world, and there are three below it. The three below the sun of the world constantly accompany the three natural atmospheres, and enable a man in the natural world to think and to feel. For the atmospheres arising from the sun of the world have not life in themselves, because they originate from a sun which is pure fire; but the atmospheres arising from the sun of heaven, which is the Lord, have life in themselves, because they originate in the sun, which is pure love and pure wisdom. The atmospheres which originate from the sun of the world, which is pure fire, cause those things on the earth, and in the human body, to subsist and be held in connection together, and they are not changed except according to the laws of natural order. Hence is the difference between things in the natural world and in the spiritual world.

So from this teaching it would seem to say that the spiritual atmospheres above the natural sun find have a formative force in the spiritual world, thus there forms are spiritual, and can come and go with the spiritual states of those in the spiritual world. But the atmospheres from the spiritual sun which are below the natural sun, are spiritual atmospheres (or creative forces) inflowing into the physical atmospheres (formative forces) propagating and conserving the physical forms which give them fixity and presence in the natural world.

So the bird held by Hans Sloane in the spiritual world was altogether similar to the bird he examined in the natural world, but the outer form was formed of spiritual substances, rather than physical matter. Both would have cells and tissues, and organs, feathers and wings. But the one in the natural world would be clothed and fixed, more permanent, but its spiritual reality would be diminished, and in the end mortal. But still both are spiritual birds in reality, but one is actually physical as well. What we see will depend on what we put our focus on.



THEISTIC SCIENCE SYMPOSIUM

2019

BREAKING THE SHELL

Connecting the Spiritual Cascade to the Physical

with New Church Science

Swedenborg Scientific Association

and the Theistic Science Group

Rev. Andrew Heilman

Presentation:

Introduction to discrete degrees

in New Church Science:

Seeing what is spiritual in the physical world

Andy Heilman grew up in Glenview; his father was Tony Heilman and his mother Phyllis Holm; so like Dr. Stephen Smith, his grandfather is Otho Heilman, and his great grandfather, Carl Theophilus Odhner. In 1974 he received his degree in Physics from the University of Illinois in Chicago, and then entered the Academy Theological School. While attending the theological school he met Carrie Friesen, and they were married in 1976. After being ordained in 1978, he and his wife, and their first son, moved to the beautiful and friendly city of Rio de Janeiro, in Brazil, where he served as pastor there for five years, and were gifted with two more sons.

Leaving Brazil, Andy taught Religion and Physics at the Academy Secondary Schools, and he and Carrie were blessed with a daughter and another son. After seven years of teaching Sophomore boys he was released to Kempton, where he has served the church and school for 29 years. Just two months in Kempton and they received yet one more son, their *caçula* as they say in Rio.

Andy has also been regional pastor for Brazil for the last 16 years. He is fully enjoying his retirement, especially the seven grandchildren, four of whom live in Kempton. Besides helping in the school and church in Kempton, and visiting Brazil twice a year, he has finally found time to join the local Astronomical Society, and travel a bit with his wife. He also works with Heavenly Doctrine Publishing Foundation, which is dedicated to preserving "the wholeness and purity of the Doctrine;" and with the Theistic Science group to promote and develop New Church Science.