

WHERE DO WE GO FROM HERE?

Reuben P. Bell²

BREAKING THE SHELL: Connecting the Spiritual Cascade to the Physical with New Church Science

Theistic Science Group and Swedenborg Scientific Association
presents the Theistic Science Symposium
Bryn Athyn College, Pennsylvania October 12, 2019

WHERE DO WE GO FROM HERE?

Theistic Science: Science Done Right
Rev. Reuben P. Bell, DO, MS, MDiv, PhD

Today—all day—we are going to do some “theistic science.” But what is that? First some background. Here is how things sit: There are two (and only two) possibilities for doing science. They are axioms from which our science starts. Recall that axioms are self-evident premises—statements of apparent fact—that cannot be reduced, on which we build a universe.

Axiom one: In the beginning there was nothing . . . and then it exploded. The post-Enlightenment universe has been built on this irrational belief. This is not just a bumper sticker; supposedly intelligent people are selling this magical idea all over academia.

Axiom two: In the beginning God caused the universe to flow into being from the spiritual sun, and then it proceeded to unfold in an orderly manner forever.

2. Reuben Bell holds B.S. and M.S. degrees in Zoology from the University of Tulsa, and a Doctor of Osteopathy from the Oklahoma State University College of Osteopathic Medicine. He is board certified in Osteopathic General Practice and Integrative Holistic Medicine. He was Associate Professor of Biology while attending seminary at the Bryn Athyn College of the New Church in Pennsylvania, where he earned a Master of Divinity degree and was ordained into the Church of the New Jerusalem. He was Associate Professor of Family Medicine and Director of Medical Humanities at the University of New England College of Osteopathic Medicine in Biddeford, Maine, where he was also Adjunct Associate Professor in the College of Arts and Sciences, Department of Philosophy and Religious Studies. He has been a practitioner of Geriatric Medicine and end-of-life care, and continues to practice Traditional Osteopathy. He earned a Ph.D. in Theological Studies from the Graduate Theological Foundation in association with Oxford University, Christ Church College. He is pastor of the Church of the New Jerusalem in Bath, Maine.

I am biased. As for me, I choose the theistic axiom. But we must never forget that the other guy's axiom is as axiomatic as our axiom, so our science must be rational (no magic allowed) and practical (understandable) and humble. Argument is OK, even sharp, zealous argument, but we must be nice. Remember, when there is charity, matters of doctrine (our beliefs) do not divide us.³ Think of Richard Dawkins, or Daniel Dennett. Don't be like them.

Which brings us to Theistic Science: "Science Done Right," so to speak. Starting out, we theistic types have some beliefs to get us going:

We all believe that nature isn't from nature.

We believe that there is a spiritual origin for natural things.

We all think that science is a good and powerful thing.

We believe that the Writings for the New Church shed light on how spiritual-natural interaction works.

And some of us renegades even believe that Swedenborg's scientific writings can shed light on the same thing.

But how? Naturalistic scientists tell us, over and over, that nature is from nature. And they're smart. Their science is really good. They've been doing it for 400 years, and it is very powerful. Meanwhile, religious scientists tell us that either 1) The earth is 7,500 years old, and Creation happened by magic. Once. Or 2) Nature was "designed" by a Creator, with evidence for this in the many irreducibly complex systems we see at work in natural things.

The trouble is that Creationism is a hard proposition to support, and "Creation Science" requires some pretty creative reasoning to confirm. Intelligent Design science is good, really good. But given that nature is "designed" these scientists can't tell us *how* it is designed. Not even a little

3. AC 3451:2 Because its teachings are drawn from the literal sense of the Word, those within the Lord's kingdom on earth, that is, His Church, will vary so far as these teachings are concerned. That is to say, one society will profess one thing to be a truth of faith, because it is so said in the Word, and another society will profess another thing, also because it is so said; and so on. Consequently because its matters of doctrine are drawn from the literal sense of the Word the Lord's Church will differ from one group to the next, and not only from group to group but sometimes from individual to individual within a group. Nevertheless *a difference in the doctrinal things of faith does not prevent the church from being one, provided there is unanimity as to willing well and doing well. The church would be one if all had charity, although they differed as to worship and matters of doctrine.* (Emphasis added.)

bit. “Evolution science is wrong,” they say, “but we really don’t know *how* it works either.” So that’s a big let-down.

Other scientists hedge. Some talk a good line, but they too often are like fish, swimming up close to that spiritual edge, but then turning away at the last minute, to avoid being labeled “religious.” (That can kill a career in science, you know.) They talk about the “emergence” of complexity in nature, leading all the way to living forms and even consciousness. They talk about the origin of life, and quantum particles that come into and go out of this world—from where? . . . to where? But they won’t mention a Creator, and for those few who are bold enough to do so, they can’t tell us how it works. Not even a little bit. So where do we go from here?

We take science—that “good and powerful thing,” and we use it for all it’s worth (and it’s worth a lot!), but we don’t stop there. First, we acknowledge its problems—its flaws and limitations where they exist. There are plenty of these. And don’t forget that humble part. Scientists are a thin-skinned lot, and we do not want to alienate the very people we are trying to attract! (Remember, “when charity is present, doctrinal differences do not divide.”) Then we put science to work. How?

Did you ever see a team of horses, pulling hard on some heavy load? For many years I attended the Fryeburg [Maine] Fair for the single purpose of watching the draft horse competition. I cannot adequately describe the majesty of those animals, as they worked together in pairs—a perfectly matched team at work in pulling a heavy load. What I came to understand is that one of those horses always leads, while the other follows, and that it is almost impossible to know which one is which. Only the driver knows, as he communicates with them from that perspective, and what we observe is perfect harmony. Keep this image in mind, as we go forward in this discussion.

Where do we go from here? We go to that *other* horse, that “White Horse,” of Revelation, Chapter 6, waiting there in the Writings for the New Jerusalem.

“And I saw, and behold, a white horse” signifies the understanding of truth and good from the Word with these. By a “horse” is signified the understanding of the Word, and by a “white horse” the understanding of truth from the Word. (*Apocalypse Revealed* § 298)

“And he who sat upon him had a bow” signifies that they had the doctrine of truth and good from the Word, from which they fought against the falsities and evils which are from hell, thus against hell. (*Apocalypse Revealed* § 299)

So the white horse is for sorting spiritual truth from falsity . . . just as we sort natural truths from falsity with the science that we do. That is the work of the brown horse, that powerful horse of natural truths as revealed by the scientific method. *Now* we have a team: science and spirit, yoked together to go the distance. And the leader . . . is spirit. And now we have a practical model for how it works.

Here is the state of the problem at this time; here’s what we are up against: Since Francis Bacon’s *Novum Organum* (1620) “scientific materialism,” or “naturalism” (whatever you want to call it) has been the leading philosophy for doing science for 400 years. It has become the prevailing paradigm. And paradigms are teflon-coated things: A paradigm is a manner of viewing the world which underlies all theories and methods of science in a particular period of history. A paradigm is a whole universe, that contains all the facts necessary to answer all questions. It’s comfortable; it’s home; careers are invested and sustained in it. That’s why they are so strong and prevailing, and so slow to change.

So after 400 years, science is strong—and this has led to *scientism*, a strong paradigm indeed that looks and acts a lot like a religion⁴. The natural sciences have produced the Neo-Darwinian Synthesis: Darwin’s original theory, based on the two tablets of natural selection and genetic variability by mutation, but supercharged with 21st century developments in genetics, geology, and molecular biology.

The Neo-Darwinian Synthesis has holes, as does any theory, but since this *theory* has become a *paradigm*, and is now almost a *religion*, it is essentially unassailable. Its science has become “settled science,” a scientific narrative frozen in place by the strong forces of public opinion. To make matters worse, vicious attacks by fundamentalist “creation scientists” from the 60s onward have closed off all objective, constructive criticism of this Synthesis.

The alternative science of Intelligent Design has emerged from the theistic side, as a the theory that denies Darwinism, claiming instead that

4. Scientism is an excessive, dogmatic confidence in the scientific method as the only means for finding truth in the human experience. This attitude leads to a belief in the power of science with quasi-religious fervor.

the universe and living things were designed and created by the purposeful action of an intelligent agent. Evidence for this is found in living systems that exhibit no convincing gradual evolutionary pathway, and are too complex to have come about in whole by chance. Some examples of this are:

1. *The biochemical cascade of blood clotting.* Too many things have to happen at once for this complex system of simultaneously acting enzymes to have evolved according to natural selection—the slow, linear accumulation of single gene mutations.
2. *The molecular “motor” that drives a bacterium’s flagellum.* Again, too many parts that must be present at once, to allow for the slow, gradual evolution of these parts by natural selection.
3. *The vertebrate eye.* This was Darwin’s nemesis: again, too many interdependent parts at work here, to have appeared one part at a time.

These are powerful arguments that are hard to dismiss out of hand, and there are many more. The science behind them is good. But Intelligent Design is only half a program; it offers no mechanism in place of the natural selection that it denies. None. Intelligent Design stirs the pot, but does not advance a theistic science agenda.

“The New Physics” (quantum mechanics and quantum wave theory) presents a totally new scientific paradigm, so completely new in fact, that it has not yet been effectively brought to bear on discrepancies within the Neo-Darwinian Synthesis. Here’s the problem: many scientists (physicists) give lip service to things like non-locality and quantum entanglement, but they continue to work within the constraints of local interactions, using Newtonian computational methods. They just can’t give up the old physics.

So here we are in the new millennium, with two extremes: runaway materialistic science vs. a small cohort of New Church theistic scientists who start from that axiom of spiritual causes for natural things. This brings to mind a very telling question that has been asked before: 2,500 years ago, the prophet Elijah asked this of the 459 prophets of Baal and the 400 prophets of Asherah, as he stood before their altar: “How long will you halt between two opinions?”

Then fire from the Lord came down and burned the sacrifice, the wood, the stones, and the ground around the altar. It also dried up the water in the ditch. When all the people saw this, they fell down to the ground, crying, "The Lord is God! The Lord is God!" (I Kings 18:38–39)

Swedenborg, an impatient young scientist in 1744, made a similar pronouncement:

All things, at the present day, stand provided and prepared, and await the light. The ship is in the harbor; the sails are swelling; the east wind blows; let us weigh anchor and put forth to sea. (Swedenborg, Emanuel, Prologue to the *Soul's Domain*, § 23)

How long will we halt? Sometimes I feel like we may have missed that boat 275 years ago. But most of the time I feel good about the future, because I think Swedenborg may have written that inspirational message just for us, two centuries hence. The days of "halting between two opinions" are over. The scientific and theological principles found in Swedenborg's works, coupled with powerful twenty-first century science, have brought us to a new, third way: a "New Philosophy" of science for this new millennium.

It is the third "New Philosophy" to be exact. The first was Aristotle's *Organon* (384–322 BCE), six works on logic that serve as an instrument for acquiring knowledge. It is specifically a body of principles for finding *philosophical* truths. The second New Philosophy was Francis Bacon's *Novum Organum*, or "New Organon" of 1620—another new method of logic, but this time for getting at *natural* truths, no longer from philosophical argument alone, but also from experience. This book put science on steroids. Third is a *Theistic Organon*, for the New Jerusalem; another new method, but this time for getting at the *spiritual* causes of natural things. This is Theistic Science from a New Church perspective.

The inspiration for this third New Philosophy? Swedenborg's scientific and theological works. All of them point to the perennial problem of spirit into nature, and spirit's interaction with it. It shows real promise because it is based on these radical principles: No atheism; No pantheism; No deism; and No magic allowed. Swedenborg's doctrines provide a framework for a new spiritual-natural paradigm that embraces science in all its descriptive and predictive elegance, but places it in the context of downward, spiritual causation. What is this framework? It starts with Swedenborg's spiritual-

natural doctrines, which provide a model for *downward causation* (Influx, Degrees, Forms, and Correspondence), plus Science's doctrines of *upward causation* (Quantum mechanics, Newtonian Physics and the Neo-Darwinian Synthesis in all its many departments). And there are a couple of doctrines that can go either way: Quantum Field theory and non-locality, that may ultimately provide the keys to everything.

All of these produce what we might call a "Neo-Swedenborgian Synthesis," which uses Swedenborg's universalizing system to clarify problems and to move past the impasse of scientific materialism and failed theism. Recall that wonderful image of the two powerful horses hitched together to go the distance.

How does our theistic science work? It starts with a theistic science "catechism" of sorts, an incomplete catechism to be sure: a listing of statements that imply unanswered questions. This listing more or less covers the spectrum of our empirical investigations, but always from the perspective of spiritual causation of natural things. Here is the list:

1. Spiritual influx of human form flows into nature as *formative substance*.
2. Formative substance interacts at levels of matter capable of receiving this influx and responding to it.
3. Inherent in formative substance is the set of constraining parameters for matter: These establish the rules of behavior for the interaction of matter and energy in the natural world.
4. Behavior in the transcendent "world of forms" determines behavior in the quantum world, which determines subsequent degrees of behavior, by force carriers, bosons, leptons, neutrons and protons, which in turn determine the behavior of atoms, molecules, macromolecules and larger aggregates.
5. Add energy, and matter will compound or "build up" into more and more complex forms according to these inherent rules of interaction. This compounding and combination is "random" to a degree that it accords with inherent rules of order.
6. Stephen Wolfram's scientific paradigm allows for this building up without the traditional regard for the Second Law of

Thermodynamics. There are programs in nature that spontaneously move towards complexity, and these are living systems.

7. These “rules of interaction” constitute the “human form” in nature. They *are* the Creator, which is Order itself, manifested in the natural world, accommodated to and constrained by conditions there. God follows his own rules, because he is the rules.
8. Matter responds to spiritual influx as it is able, coming into the human form as completely as it can, according to the resources available to it. The more complex the thing, the more “human” it will be. (Think “phylogenetic tree,” or “Great Chain of Being” here.)
9. Allow these conditions to run long enough, and any terrestrial planet with the right starting conditions will eventually produce living organisms, and will ultimately produce human beings, with brains capable of supporting minds of three degrees, making them eternal beings in “the image of God,”—the purpose of Creation fulfilled.

Each of these premises represents one domain of our total theistic science program, and each serves as a subject for on-going research. See how they interact. There is a category here to attract scientists of all stripes. As each category is perfected, the overall model is strengthened. As the model is strengthened, the mechanism of spiritual-natural interaction will begin to come into view. What results is a hybrid ontology of secular science and theistic natural philosophy—the best of both worlds!

The good news is that even while working deep within one of these specific areas, we are all working together, towards a more perfect model of the spiritual origin for natural things. We are building a new, twenty-first century Theistic Science Paradigm.

The Problem of Organic Form

My personal interest lives in the area of organic form, or how forms appear and are sustained in the natural world. My particular interest is the emergence and evolution of living forms.

I’ve studied evolution for many years. I taught it for years, right here, at the Bryn Athyn College of the New Church! I love the concept. And I always knew that it was *mostly* right. But I also knew that there must be

more. That was before I talked to Professor Charlie Cole, right across the way from here, in the Swedenborg Library, on my first visit to Bryn Athyn, in 1989. He told me that Swedenborg’s scientific works were the key to the perennial problem of form. He was right. Now, 30 years later I am telling you the same thing. Science alone won’t do it. And spirituality alone can’t do it either. What I’ve learned in the last 30 years is that good, honest science and good, rational spiritual principles TOGETHER will get the job done. Swedenborg knew this all those years ago.

The concept of “Intelligent Default,” defines organic forms as “default settings” for matter in its various configurations, under various physico-chemical conditions. Human Form as *formative substance* flows into this world from the spiritual world as uses, and matter behaves according to set laws and physical constraints, producing natural images of these uses. These natural laws and physical restraints *are the Creator in essence*, who is Order Itself, accommodated to nature *as the pre-installed conditions* of this world.

What is critical to know is how this (infinite) spiritual influx actually comes into nature from the other side. This is the problem of the *nexus*, or doorway between the two worlds. We’re focusing on this problem, and there is a lot to come in today’s presentations about how this might work. Simply put, *formative substance* flows across this nexus at the deepest (innermost) level of nature. Using Swedenborg’s *Principia* as a guide, I envision a stepwise building up, or compounding, of pre-geometric proto-matter entities into stable, three-dimensional matter. This is facilitated by the orderly behavior imposed on these entities by the “laws” of nature. What are these laws? Nothing exotic—just the limits of the physical world that we deal with every day:

the speed of light	gravity	the Pauli exclusion principle
electrostatic attraction	strong forces	weak forces
bond angles	bond distance	dipole moments
Van der Waals forces	valence	d and l handedness
Plank’s constant	hydrogen bonding	wave-particle duality

At the front-end of this compounding series we have essentially dimensionless entities (“particles,” for want of a better term), some that appear and disappear as needed. As these pre-geometric particles combine and build up, this quantum series ultimately progresses to atoms, that

behave in combination with other atoms according to these same laws and constraints.

These atoms combine to produce molecules. Molecules compound into macromolecules and as all of these things (atoms, molecules and macromolecules, then cells, tissues, organs, etc.) interact, they do so according to these same laws. Always—these simple starting conditions, compounding over time into emergent complexity and an infinite variety of forms. And always the result, not just of random interactions, but a series of *default outcomes*, facilitated by these same rules of order.

Forms

Is there an infinite variety of forms? Apparently not, in terms of ultimate expression. There is an infinite variety of living forms in nature, to be sure, but observation shows that all these forms rest within a finite number of general forms present since multicellular life appeared on the planet—all in place by the end of the Cambrian Explosion, 500 million years ago. Five general body plans were established by then, and the same five now exist, all exhibiting a marvelous diversity of remodeling and customization.

What's this all about? To what spiritual reality might these five general forms correspond? Anatomical divisions of the Human Form Divine? That sounds Kabbalistic . . . I like it. Human systems and their components? Levels of the divine mind? Who knows?

Something established a set number of these forms (*somehow* related to the divine human form). We might call these primordial forms *archetypes*—I like that term, and the concept... both of which were washed away on the tsunami of Darwinism. Even at this level of organization we find discrete degrees of order at work; new forms are the natural “leaves” on the branches of this otherworldly phylogenetic “tree.”

Now for Some Theistic Science

First, we are going to use three good concepts from some very good science. And we are going to apply Swedenborg's major doctrines to these. They are familiar themes:

WHERE DO WE GO FROM HERE?

Order	God himself is the Order in nature (<i>TCR</i> 53)
Influx	Jacob's ladder—an eternal metaphor for spiritual-natural influx
Degrees	the individual steps on this ladder— with angels both up and down
Forms	the Kabbalistic <i>Etz Chaim</i> (Tree of Life)— an expanded metaphor
Correspondence	like a radio (material radio interacts with immaterial radio waves)

All these together produce a DOCTRINE OF EVERYTHING.

How Does it Work?

First: Three good concepts from three atheistic scientists to show us the way:

Macroevolution	Stephen Jay Gould ("non-overlapping magisteria")
Emergence	Stuart Kauffman (complexity emerges from conditions)
Complexity	Stephen Wolfram (complexity from simple starting conditions)

Natural selection just doesn't work for the origin of new forms. It can't. I have always said this, but I am a nobody; Stephen Jay Gould said the same thing, and people listened. It doesn't mean there is no evolution; there's just not *Darwinian* evolution. (Remember the two tablets of Darwinism: 1) natural selection and 2) genetic variability.) Stephen Jay Gould finally said what we have always known: The Natural Selection emperor has no clothes.

Charles Darwin's vision of the slow, steady accumulation of point mutations bringing about the *diversity* of living nature doesn't work. The Intelligent Design scientists know this. Natural selection can fine-tune and sculpt, and thereby adapt an organism to slowly changing environmental conditions, but significantly new forms? No.

There is “randomness” in nature, so there *can* be genetic mistakes. Little mistakes refine existing forms, so that they can adapt to changing conditions. This is natural selection, or *microevolution*⁵, and it is a big deal. But it doesn’t make new forms. Big mistakes make new forms, by *macroevolution*⁶, a different process altogether.

Nature is a “random” “popcorn popper” of new forms. Each new form is looking for a use to link up with. No use, no link; no link, no correspondence; no correspondence, no lasting form.

Order comes into nature—it *emerges* says Kauffman at the (*almost* metaphysical) transitional region between order and chaos—where conditions are neither too restrained (no freedom) nor too disordered. Order emerges from conditions ‘in between,’ that are just right. And once order emerges, it propagates into greater and greater systems, producing *life and living systems*.

Most of the beautiful order seen in ontogeny is spontaneous, a natural expression of the stunning self-organization that abounds in very complex regulatory networks. We appear to have been profoundly wrong. Order, vast and generative, arises naturally. —Stuart Kauffman, 1993, *The Origins of Order*, Oxford Press

What a wonderful and useful scientific idea. I’ll take it . . . except for the part about it all being “spontaneous,” and “arising naturally.” (Here we go again. . . . “In the beginning there was nothing, and then it exploded.”)

Stephen Wolfram says that great complexity comes not from greater complexity (an old materialistic fallacy) but from very *simple* starting conditions. And as we shall see, he is right!

Swedenborg calls the “first natural point” in his *Principia* series a “simple,” an entity in which all things are contained in potential. He defines it like this in *The Fibre*

I call this form, or if you prefer, this substance, simple, because it is the first natural form; *above it is the infinite itself, and below it are compound forms or substances.*

This substance was called by ancient philosophers the *prima materia*, which

5. Natural selection, or “microevolution” is the adaptation to slow environmental change, said to result from the slow, steady accumulation of single gene (“point”) mutations over long periods of time.

6. Macroevolution: The origin of new species and trends among groups of related species, especially with regard to the evolution of whole taxonomic groups, sometimes rather abruptly. It comes from big mistakes: Chromosomal disruptions, rearrangements, deletions, transpositions, duplications, etc.

is moved with a motion that consists in receiving form." *Into this form flows the universe* called heaven, that is, each solar or stellar vortex; likewise its larger and smaller volumes; and also its individual entities. —*The Fibre*, §§ 266a, 266b.

Now we are talking! Just like Swedenborg, Wolfram says, "Take a few of these and let them interact for a long time, and voila!—you have complex forms in nature." Thank you Dr. Wolfram. This is major! But again, instead of looking up, to see an immanent intelligence at work in all this, he looks down, and finds the opposite:

we are continually confronted with what seems to be immense complexity. And indeed throughout most of human history it has been almost taken for granted that such complexity—being so vastly greater than in the works of humans—could only be *the work of a supernatural being*. But *my discovery* that many very simple programs produce great complexity immediately *suggests a rather different explanation*. —Stephen Wolfram, 2002, *A New Kind of Science*, Wolfram Media, Inc., Ch. 1, p. 3

That "different explanation"? It's all so simple, we *don't need* a Creator! (Or "In the beginning there was nothing, and then it exploded.")

Finally, we come to the two theistic science principles that put it all together—a principle of *structure* and a principle of *function* that, when taken together, explain, at long last, how God is apart from Creation (to allow for freedom), and yet still connected with it (to allow for the divine providence to be at work in the world). It is by means of these that spirit comes into nature to guide, but *not to micro-manage* all its operations there.

Swedenborg's *Fibre* (1742) has been for me the most difficult of Swedenborg's scientific books to comprehend. Coming to the end of his scientific period, he had ascended as high as he could go without direct spiritual inspiration. He was working at the level of the nexus and dealing with concepts for which there was no language to describe the operations there. It is here, in his *Doctrine of Forms*, that we find a cascade of three-dimensional receptacles—for divine consciousness as it descends from its source, all the way down to non-living matter. These are not the particulate "finites" found in the *Principia*. They are a series—ethereal on one end and material on the other—with intermediates along the way, answering the requirements of all intervening levels of reality.

The cascade of forms from *The Fibre* (1742), §§ 261–273:

Divine (pure essence)
Spiritual
Celestial
Vortical
Spiral
Circular or Spherical
Angular (non-living matter)

It is in this series that spirit finally steps off, matter begins, and there is that very necessary separation of the two. Here is a structural model for spirit into nature as never before explained, and I believe that it describes operations of the quantum world. There is much more work to be done with this idea.

Now separation is great for freedom, but what about our connection with the Lord, for the operation of his divine providence? To complement this *structural* divide, there must be some kind of *functional* connection. For that we look to that last and most comprehensive theistic science principle, the correspondence between things of the two worlds.

Swedenborg's Doctrine of Correspondence was the last to come, and the most important of all, because his whole paradigm rests on this essential concept. He needed a mechanism for spiritual-natural interaction across discontinuous degrees of order, *strong* enough to allow the divine to bring providence into nature, but *forgiving* enough to let nature take its course. Correspondence supplies this dynamic link of natural forms with their spiritual counterparts. It is the force that resonates across structural degrees in a kind of harmony, defining the spiritual essence, or final cause, of natural things. Things that are separated by discontinuous (discrete) degrees of order cannot interact directly. But if both participate in a similar function or use, they may resonate across structural degrees in this harmony, defining the spiritual essence, or final cause, of all natural things.

So what about our Intelligent Default? How does evolution work according to good science and these wonderful principles? It is really pretty simple . . . so simple, in fact, that it is easy to overlook.

Form Meets Use

I've laid the groundwork for a new science of organic evolution, a theistic model of adaptation and change according to natural laws, which themselves are an emanation of the divine human form into the universe. There is a bridge across that spiritual-natural abyss, that links the two in operation, but preserves the freedom essential for natural processes to carry on. One of these processes is evolution.

We have found that Swedenborg's *forms* supply the structural bridge—a series of intermediates translating spirit into nature along just such a phase transition as Kaufman described. Each step brings spiritual substance closer to the constraints of natural matter, and each step is discretely separated from its neighbors.

Finally there is *correspondence*, the functional bridge that spans this same abyss, arching over the forms cascade, and linking spiritual things with their natural counterparts. If one end of this cascade is inert matter and the other is the divine, then we can see that something must be at work to link things on both sides in unanimous action. That link is correspondence.

There is one more thing. Remember: All these particles, these forms, these intermediates—even the ones that sometimes aren't really there at all—behave according to laws. The rules they follow are “natural laws” governed by the divine order installed at creation. All these define the limits of behavior for natural matter, or, how parts interact with other parts, and this translates into a definition of FORM, not shape. Shape just happens, after matter follows its own laws. Everything in nature “just happens” when matter follows its own laws; even its Creator cannot do otherwise. Form is imposed on nature by the higher form inherent in the spiritual substance flowing in. Swedenborg tells us that this is the Human Form Divine.

Forms in nature are not by accident, and neither are they designed. Forms—emerging forms, evolving forms, developing forms—display a DEFAULT SETTING for matter in this world, determined by the mechanisms just described. It is INTELLIGENT DEFAULT, to be sure, because it comes from “somewhere else,” and it is wise!