

THE FOURTEEN FALLACIES OF THE SENSES ENUMERATED IN *ARCANA COELESTIA* 5084: IMPLICATIONS FOR SCIENCE EDUCATION

Leon James[†]

In a prior article on the existence of scientific revelations in the Word,¹ it was argued that science education for the New Church plays an important role in one's ability to read and understand the Writings. Some New Church thinkers doubt that there exist scientific revelations anywhere in the Threefold Word—the Old and New Testaments and Swedenborg's Writings. In education they prefer a separation of science and religion, agreeing that both are necessary but not at the same time, or within the same course or textbook. Some have argued that scientific revelations would compel belief in the Word, and this is not permitted by the Lord.² Suggestions have been made that we ought to interpret *Earths in the Universe* in a spiritual sense and not think that there are actually moon people or Jupiter people.³

As a practicing scientist I'd like to voice the view that scientific revelations can exist in the Word without posing a threat to one's spiritual freedom. At this time I would like to alert us all to the possibility that separation of scientific and religious concepts in the New Church community weakens both foundations within our intellect, and leads to materialistic thinking, a forbidden mode of thought defined by the 14 fallacies in

[†] Dr. Leon James is Professor of Psychology at the University of Hawaii where he teaches courses in traffic psychology, personality, and cyber-psychology. He maintains a Swedenborg Glossary for Psychology on the World Wide Web (<http://www.soc.hawaii.edu/~leonj/leonpsy/leon.html>). His e-mail address is: leon@hawaii.edu and street address is: 744 Pahumele Place, Kailua, HI 96734.

¹ Leon James, "Do the Writings of Swedenborg Contain Scientific Revelation?" *New Church Life* (July 1995): 325-330.

² Philip N. Odhner, *How Should Those in the Church Regard the Teachings Concerning The Earths in the Universe?* (Bryn Athyn: General Church Press, October 1991).

³ Kurt Nemitz, "The Names of the Planets Whose Spirits Swedenborg Met." Privately distributed talk to the Council of the Clergy, General Church, Jan. 1970.

Arcana Coelestia 5084 (to be discussed below). Separation of science and religion in modern times has led, in the Christian world, to such materialistic thinking and this has destroyed people's ability to be regenerated, according to the Writings. It would be folly to attempt to return to pre-modern Christianity when church dogma ruled science. Another solution is needed, and the Writings provide one. This number (AC 5085) presents 14 materialistic concepts that are common in science and that ought not to be taught because they darken the light of the spirit and can lead to spiritual insanity and hell.

I have been told that the "good of the will" (*bonum voluntarium*) that existed in the men of the Most Ancient Church, was destroyed in the antediluvians; and that at the present day, with the men of the Christian Church, the good of the intellect (*bonum intellectuale*) is beginning to perish, insomuch that there is but little of it left; the cause of which is, that they believe nothing except what they apprehend by the senses; and that at this day men not only reason from the senses, but also, by means of a philosophy unknown to the ancients, reason concerning Divine arcana, whereby intellectual light is altogether darkened—a darkening that is becoming so dense as scarcely to admit of being dispelled. (AC 2124)

To prevent the intellect from darkening, it is desirable in my opinion, to fight against the separation of scientific and religious concepts in New Church education. This applies only to New Church education. Christian fundamentalism has not been successful in the attempt to force the public school science curriculum to include Creationism along with Evolution theory. This failure is due to a wrong understanding of both science and Genesis.

The Heavenly Doctrine confirms what some have suspected, that the first 11 chapters of Genesis are not describing natural evolution but spiritual development. Other historical parts of the Old Testament, New Testament, and of the Writings are meant to be taken literally, as well as spiritually. Both levels of meaning apply, unlike in Genesis 1-11 where only the spiritual applies. Since the historical parts of the Threefold Word

are to be taken literally, they may be a vehicle for scientific or historical revelations. The details given in the Apocalypse by John are literal descriptions of actual events that took place in the spiritual world as witnessed by Swedenborg. All historical events mentioned in the Word did indeed occur along with other events that are not mentioned. Only those details are given that allow for the exposition of a continuous unbroken sequence of inner correspondences.

Arcana Coelestia 5084 is a relatively short number, yet manages to enumerate and discuss 14 fallacies of science that we should not believe or teach because they interfere with the individual's regeneration. The expression used in this number with regards to nearly each fallacy listed is to say that "it is a fallacy of natural sense to believe that..." I take this to mean that these are fallacies of science since science relies on the senses to collect observations or data about natural phenomena. If a scientific theory is based on a fallacy of the senses then the entire theory is fallacious. Therefore the 14 fallacies "of natural sense" are also 14 fallacies of science when theories or methods are based on these fallacies.

Fallacy 1. *The sun revolves around the earth* (AC 5084: 2)

Scientists used to believe this, but after Copernicus and Galileo, the fallacy largely died out. Nevertheless, it needs to be taught to each new generation since the uneducated person falls prey to this appearance.

Fallacy 2. *The space between the stars and planets is a vacuum* (AC 5084:3)

This fallacy is upheld in Newton's work and throughout Newtonian physics. Newton, in the spiritual world, rejected his own theory of vacuum:

I spoke with Newton concerning a vacuum, and concerning colors...Concerning a vacuum he said, that in the world he had believed in the existence of a vacuum; but when the angels perceived that he had an idea of a vacuum, as an idea of nothing, they turned themselves away, saying that they cannot bear the idea of

nothing...Therefore the angels entreated that he and all those who cherished the idea of a vacuum as of nothing would desist from it...When he had heard these things, Newton said that...he would desist from it hereafter. (LJP 265/6)

Today more and more scientists reject the idea of a vacuum. Outer space is more commonly viewed as a gravitational field that is never empty and cannot be composed of nothing. The idea that space is a vacuum is an irrational one because the existence of a vacuum would violate the rational principle that all things in the universe are interconnected through an uninterrupted series of substances and functions. A related fallacy is the idea that God created the physical universe out of nothing. The Word reveals that the Lord creates the universe out of substances and atmospheres that issue from the Divine sphere. I think that the idea of inter-galactic and sub-atomic space being a vacuum or nothing may injure one's idea of Divine Providence and its absolute omnipotence.

Fallacies 3 and 10. *Genes have the power to reproduce life; or biological organisms "have life within them" (AC 5084: 3,4)*

According to these two fallacies, "seeds [are] impressed with the property of reproducing themselves" and, "life has been imparted to them" (AC5084:3). The fallacious idea that seeds or genes reproduce or transmit life has led to all sorts of outlandish ideas in sociobiology. According to one popular theory, genes, in their frantic attempt to survive and perpetuate themselves, create physically attractive women so as to have a better chance to be picked by men for reproducing offspring, and thus perpetuating those genes.⁴ In this view, a human being is an egg's way of making another egg. However, the Writings explain that genes (or seeds) do not contain life in themselves but are only receptor organs into which life flows on a continuous basis. Thus, biology is not the "science of life" but the "science of the receptors of life."

On a recent radio talk show, a woman author speaking about pregnancy, said that "we women have the power to get pregnant and produce

⁴ E.O. Wilson, *Sociobiology* (Cambridge MA: Belknap Press, 1980).

life in our womb, therefore we have the ability to..." However, in actuality, pregnancy produces organs of life which can receive life through continuous influx from the Lord. The life in us does not belong to our body, but flows through it. This is a scientific revelation that should not be left out of New Church science textbooks. In my view, science textbooks in the future will strive to incorporate the revelations about material things given in the Writings. Textbooks can do this today.

Fallacy 4. "Atoms are simple substances"

The words of this section (AC 5084:4) are: "Hence it is a fallacy of merely natural sense that there are simple substances, which are monads and atoms." The Word cautions us here not to think that atoms are simple substances, that is, indivisible. In other words, thinking that atoms are indivisible is a belief that interferes with spiritual development. Today science teaches that atoms are NOT simple substances, meaning, indivisible entities, but are themselves composed of still smaller substances. Recently it was reported on the news that scientists created "anti-matter," sub-atomic particles whose lifespan was around one-billionth of a second. New substances and particles are now being discovered on a regular basis and there is no theoretical end in sight. It is thus a scientific fallacy to believe of any physical substance that it is composed solely of itself. In other words, there is no smallest substance or particle!

This is an assertion about natural fact. Whatever particle scientists can encounter, they know from revelation that it is composed of still other particles. Any scientific theory that says that particle X is "simple" and composed of no further elements, is ipso facto wrong, according to revelation.

Fallacy 5. Nature is all there is in the universe (materialism) (AC 5084:4)

According to this fallacy of science, "all things are of nature and from nature" (AC 5084:4). This form of materialism denies the reality and existence of a spiritual world. It is thus delusional or insane. The Word reveals the fact that the universe is created dual: partly material, partly spiritual. Nature is NOT all there is. Instead, there is nature and there is

spirit, a dualist universe. To the materialist view, facts about the spiritual world are not facts since there is only the physical universe. Thoughts and feelings are likewise defined as physical events in the brain. Thus, from the bias of the materialist creed, no revelation about a spiritual world is possible since there is no possibility of a spiritual world existing.

If, however, the materialist bias is set aside, a more objective and rational view emerges. To set aside the negative bias of materialism means to adopt the positive bias of dualism. This transformation begins with the *assumption* that God exists and revelation happens. In the Writings we have instances of factual revelations about the universe, the primary one being that the universe is dual. The Writings as the Word reveal many of the mechanisms by which natural phenomena are produced from spiritual causes through correspondences. The natural world contains only effects; all causes of natural phenomena are spiritual. Thoughts and feelings are not material, but spiritual, composed of spiritual and celestial substances called good and truth. A person on earth is thus partly material, partly spiritual, and it is the spiritual that survives at the death of the material body. The spiritual is capable of far purer sensations and more advanced reasoning capacities when it is separated from the physical body and operates within its own sphere through the spiritual body, which it then acquires.

Fallacy 6. *Life ends at the death of the body* (AC 5084:5)

This is a common delusion in a materialistic age. Biologists and psychologists often take this point of view today. In medicine, near death experiences are not generally considered proof of life after death but only proof that the brain continues its activity for a few seconds after the heart and breathing stop. However, the Word is full of factual revelations about the spiritual world and how we wake up there shortly after the death of the physical body (e.g., AC 2119). We are given many details about the process of dying and entering our spiritual body, as well as about the natural elements that compose the *limbus*. This is of direct relevance to several sciences including psychology, neurology, and biochemistry. Contrary to current scientific speculations, thoughts, memories, and feelings are not created in the brain, but in a spiritual medium within the brain. At

death, this spiritual medium, or spirit, walks off in its own form which appears to be a replica of the former physical body. This walking, talking, breathing, fun-loving spirit lives forever—either in heavenly states, or hellish. Thus, life never ends for human beings. We are born immortal.

Fallacy 7. *The human race is on a continuum with animals* (AC 5084:5)

This popular scientific fallacy comes from looking at the similarities between humans and animals and concluding that they are of the same origin, “man being only a more perfect animal.” However, this theory is not accurate, and the Word reveals a different set of scientific facts, namely, that life after death is not possible for animals because they cannot be conjoined to God. It is explained that eternal life is due to the process of human consciousness by which we can consciously acknowledge God’s existence and worship and love God (“conjunction is by reciprocity”). Animals are not capable of picturing and loving God, therefore they cannot be conjoined to God and thereby enjoy eternal life. The animals that appear in the spiritual world are spiritual animals and these do not have their origin on natural earths. Most scientists today insist on defending this fallacy, possibly because it helps them avoid recognition of God and the spiritual world.

Fallacy 8. *It is the brain that senses our outside environment* (AC 5084:6)

It is a fallacy of science to assert that our sensations occur in the brain or are produced there. This fallacy is nearly the universal view today in psychology, biology, medicine, neuroscience, etc. The existence of this fallacy has become so widespread that people unthinkingly use the expression “My brain tells me that...” or “He’s got a good brain” etc. A recent newspaper article on students playing in the College Bowl quiz show, uses the headline “Brains Battle in Academic Game.” The brain is not the seat of consciousness or sensations. The Word has revealed the scientific fact that sensation and thinking are done within the body, not by the body. Brain activity is nothing but electro-chemical activity that corresponds to mental (spiritual) activity. It is the spirit that senses through the organs. It is the spirit that thinks within the brain (or body). When the

body drops away at death, the spirit is now in the spiritual world in its own form and medium, and senses the spiritual environment much more purely and vividly than it had sensed the physical environment before.

Fallacy 9. *Light and heat originate in the sun (or stars)* (AC 5084:6)

This is a general fallacy in chemistry, physics and astronomy. Light and heat are seen as physical substances streaming out from the hydrogen explosions within stars. Instead, the Word has revealed the scientific fact that the heat and light in stars or their flares, are uncreate substances, therefore not material. They originate in the spiritual sun and stream out into the external, physical world through the interior of stars. Knowing this, it is more rationally comprehensible why the speed of light is the ultimate speed possible. Light from the spiritual sun streams into the organ of our understanding by which we can see truths. Heat from the spiritual sun streams into the organ of our will by which we can love good and intend it. However, when light and heat externalize materially within natural stars, they no longer have this spiritual property.

In current practice, elementary school children in science courses are exposed to this fallacy, and even New Church children will not hear of the basis of this fallacy until several years later when the Writings are studied in detail. It might be better to introduce the natural sun and the spiritual Sun together in their proper relationship.

Fallacy 10. (See 3)

Fallacy 11. *Marriage and monogamy are adopted for the sake of raising children rather than for the sake of a spiritual union* (AC 5084:7)

Social Darwinism was formulated in the 19th century, yet Swedenborg refers to similar beliefs about marriage in the 18th century: "Sensuous people [i.e., people with the materialistic perspective] believe from fallacy that adulteries are allowable; for from the sensuous they conclude that marriages are instituted merely in behalf of order for the sake of the education of their offspring" (AC 5084:7). This is a purely secular or materialistic perspective. For instance, if it did not harm public order or if

children were not involved, then adulteries, promiscuity, and so called open sex marriages, “would be allowed” [AC 5084: 7] by many who do not acknowledge that they cause spiritual damage.

However, the Word explains that marrying someone is a spiritual act that alters the basis of one’s mental functioning. Marriage is holy and heavenly. It is important for married partners to know this fact. Acts against one’s marriage are thus acts against one’s spirit, against one’s heaven, and against one’s relation to God. Another way to see this is that marriage is eternal while procreation is limited to this life. The real significance of marriage lies in its correspondence to the conjoining of good and truth in the Divine Human.

Fallacy 12. *Competitiveness is compatible with unity and love.* (AC 5084:7)

This number refers to people obsessed with “having more glory than another,” (AC 5084:7) which is a style of interacting we can call competitiveness. The Word teaches that the heavenly life is purely cooperative, not competitive, and the Lord in the Gospels warns the disciples that competitiveness for glory or power is not compatible with heavenly life. Love forges unity of will and intellect and promotes a non-competitive style, serving others altruistically, without reward, and for the sake of good.

Americans today accept competitiveness as healthy in business, sports, and games. We are taught that competitive sports exist in the natural heaven. It must be therefore that some forms of competitiveness are not unhealthy while some are. In decision science, competitive exchanges are called “zero sum games” to indicate that what the winner wins, the loser loses. By contrast, sportsmanship encompasses the idea that everyone wins who plays with honor.

Fallacies 13 and 14. *Being good to others for the sake of self merits reward, and faith alone merits salvation* (AC 5084:7)

The Word frequently warns against believing the fallacy that “good works merit reward.” Another fallacy is the “faith alone” heresy started by Luther that doing good works is not part of faith. The Word teaches that

good is from God and only God is good. Thus the good within us is God's good within us, not our own. Hence the good we do is the good God does through us and we do not merit any reward for doing good. Yet good works are to be done as of self, for the sake of God, and with the knowledge that it is God acting through us. Being good means benefiting others as of self for the sake of God. The quality of one's life in eternity depends not on one's faith, but on one's life of charity, that is, on being good.

Implications for Natural and Social Science Education

The fallacies that are enumerated in this number fall into three broad categories. The first 10 belong to natural science, two belong to social science, and the last two to religious science. Natural science fallacies are based in the intellectual struggle between materialism and dualism. To combat the effects of materialism, we need to emphasize dualism in science education. I don't think it is possible to get away from scientific materialism by alternating materialistic science courses with religion courses. Natural science courses need to teach the various fallacies of the senses such as the idea that genes care for their own survival, or that the brain thinks and senses. To teach biology or psychology without integrating it with life after death, is to encourage the formation of naturalism within the mind of students. To teach Darwinism, sociobiology and neurolinguistic programming without teaching that animals have no internals, is to allow materialism a foothold within our intellect.

Similarly, when teaching the social sciences—history, political science, psychology, anthropology, linguistics, and sociology—we need to teach what we know from the Word about spiritual societies and their social character, about the universality of cultures, and about the holiness of marriage. I don't think it will work to teach about marriage in a secular way during social science class, then teach about the holiness of marriage in the religion class. The spiritual consequences of marriage or of competitiveness need to be taught in social science itself.

The separation of science and the Word appears to some as a prudent practice lest the two come into conflict. What if a scientific fact that is found in the Word turns out to be incorrect, as proven by science? Such an eventuality might weaken or destroy someone's faith in the Word. This fear promotes an aversion for mixing science and the Word. Yet the Word

is full of factual statements about how we think, about accidents and chance, about history, agriculture, biology, correspondences, and life on planets.

Three reactions have occurred in the New Church community. One is the position that we should not let our faith be weakened by a few inaccuracies in the Word, here and there, dealing with natural things as seen by the limited perspective of the man Swedenborg. In contrast, the spiritual things in the Word are dictated or inspired by the Lord and cannot contain any errors. A second reaction is to advocate that the natural facts mentioned in the Word are not to be taken literally, but rather as spiritual things cloaked in natural metaphors. Thus moon people are not moon people but spiritual states we can be in. The third reaction is to say that the Word contains both spiritual and natural revelations. The physical details in the literal of the Word are to be taken as real and accurate, and their internal spiritual sense are also to be taken as real.

With respect to the first reaction that the Word contains some scientific inaccuracies due to Swedenborg's necessarily limited knowledge of physical things, I have not yet found any fact in the Word that has been demonstrated to be scientifically wrong, including the possibility of life on the moon. Scientists doubt that the planets in our solar system can support human life, but they are not sure. With respect to the second reaction that it is the spiritual truths that are important, I can agree that the literal of the Writings has an internal, including the Memorable Relations and stories about the inhabitants of the moon. But this acknowledgment need not make us deny that the literal is *also* true and accurate. I thus come to reaction three, which I have supported in my capacity as a practicing scientist.

In terms of science education, I believe that we urgently need to provide New Church persons with the intellectual technology for scientific dualism. Materialism is the default mode in science education today. Without being given such a technology, New Church people experience added difficulty integrating their lives with their faith. Being taught scientific dualism empowers them to figure out the Writings, to understand them, to become independent thinkers, users. Scientific dualism allows them to figure out science and to see its current materialism and how to modify it.

Scientific dualism is the reality we know as persons. The 14 fallacies represent scientific materialism. There is a cost in teaching the regular kind of natural and social science that accepts any of these fallacies. On the other hand teaching dualist science does not violate science, it only violates materialistic science. □

