

A BRIEF GUIDE TO SWEDENBORG'S MAJOR SCIENTIFIC WORKS

1719 *On Tremulation*

A tentative work dealing with human anatomy and physiology, but also speculating on the role of certain anatomical structures in the transfer of information within the body. The idea of a harmony of sympathetic vibrations between anatomical components is introduced - an early look at "action-at-a-distance." After this very promising beginning, Swedenborg abandoned this line of investigation for the pursuit of cosmology.

1721 *Principles of Chemistry*

A treatment of the geometrical internal arrangement of substances, the enduring concept in this book defines matter as serial aggregations of components differing in complexity of arrangement, but not substance. A theory of creation emerges from this series, originating from a single, mathematical point.

1729 *Lesser Principia*

A short work improving on the concept of the mathematical point said to be the simplest of matter in the *Chemistry*. Matter must begin with a binary of two simples, fluent and quiescent, reciprocally associated.

1734 *Principia*

A major work attempting to explain creation (as in the *Chemistry*) by a series of compounding aggregates of matter derived from active and passive primary particles. Essential to extended matter is motion, provided by a conatus from the Infinite. Creation proceeds by a series of compounded finites in increasing degrees of complexity, with each successive level containing the one before.

1734 *The Infinite and the Final Cause of Creation/Intercourse Between the Soul and the Body*

This philosophical/scientific work represents a turning point in Swedenborg's scholarly life, as it is here that he shifts his attention away from cosmology and physics, and begins an earnest search for the soul. Realizing the need for more anatomical expertise, he embarks on extensive self-study and finally formal studies in Paris, 1736-38, in the *School of Chirurgery and Dissection*.

1738 *The Cerebrum*

Written in Venice following his anatomical studies, this is a comprehensive treatment of the brain, with a clear interest in localizing its interaction with the soul. Here are seminal studies on the animation, or intrinsic motion of the brain and its membranes, and the secondary motion of the skull bones, as well as insightful and ingenious interpretations of endocrine neurophysiology and the central role of the cerebral cortex in motor function.

1740 *Dynamics of the Soul's Domain* (formerly entitled *The Economy of the Animal Kingdom*)

A major work on human anatomy in four parts. The soul is at first identified in association with the blood, which, by means of its various divisions, provides for the distribution of soul to all parts of the body. Following this there emerges an extensive model of a dynamic *contiguum* of adjacent membranous and fibrous parts, uniting all elements of the body in a universal system of functional integration.

1740 *The Fibre*

This is a continuation of the *Economy* series, and describes the medullary substance of the brain and spinal cord, and the peripheral nerves. The functional relationship between nerves and vessels is explored, and it is here that Swedenborg presents his Doctrine of Forms.

1742 *Rational Psychology*

This final work of the *Economy* series examines the operation of the soul with respect to its contribution to rational thought. The soul is above the senses, and yet is in touch with what goes on below it by means of an analogical link that Swedenborg declines to describe, putting this off to another time. This will eventually become his *Doctrine of Correspondence*.

1743 *The Organs of Generation*

This work, Parts IV and V of the *Animal Kingdom* (or *The Soul's Domain*) series, again examines the operation of the soul in the body, but from the perspective of its descent. From its origin in the "cerebral gland" the soul descends into the body via the cerebrospinal fluid, where it is delivered by the circulation to the generative organs themselves.

1743 *The Brain*

A second major work on the brain, dealing again in considerable detail with the *animation*, or inherent motion of the cerebrum, and focusing on the cerebellum and spinal cord as well. In this work we find a description of the “circle of life”: the descent of the “animal spirit” from the cerebrum via the cerebrospinal fluid, to be delivered to all parts by the circulation of the blood, which, when depleted, is returned to the cerebrum via arteries.

1744 *The Five Senses*

This work, another part of the *Animal Kingdom* (or *The Soul’s Domain*) series, examines the sensory nervous system. Swedenborg speculates here on the interaction of the sensory nerves as intermediates between the natural world of stimuli, and the soul that interprets and makes use of this information.

1744 *The Soul’s Domain* (formerly *The Animal Kingdom*)

A major series of works of the same nature as *Dynamics of the Soul’s Domain*, but from the perspective of the soul itself. Its goals were to define a “rational psychology,” or the working of the mind, and to gain knowledge of the soul, “the crown of my studies.” From this approach, Swedenborg hoped to identify the seat of the soul in the body. Leaning toward the brain as the site of this nexus, the series nonetheless ends in an unfinished state, a reflection of the author's failure to define the nexus in anatomical terms. Major contributions of the series (which includes *The Brain*, *Rational Psychology*, *The Organs of Generation*, and *The Five Senses*, as well as the two-volume *Soul’s Domain* itself) are the further development of the *contiguum* concept, relation by degrees, and the necessity for a *Doctrine of Correspondence* (briefly described, but never fully developed). This unfinished study was interrupted by Swedenborg's spiritual crisis, from which followed his theological period.