

selves are inwardly in the truth, they see from it endless things that belong to it. Everywhere in their daily lives, that is, they see illustrations and examples of that truth. Thus, even with them, celestial truth is rooted in as-it-were natural truths, and thus is order made perfect. Thus, even with them, truth is strengthened and made alive by many particulars.

For us, however, who at best are only spiritual and who need rational confirmations of truth, as well as natural illustrations and examples of it, such confirmations and illustrations are not only permissible, but are also desirable, provided only that they be from the Lord and not from ourselves. "Confirmations of truth from the Lord and not from self"—what are these? They, too, are part of the self-evidencing reason of love. Accepting what the Word teaches simply because the Lord has said it, the internal or spiritual man will also refuse to let a newly understood truth lie as a dead thing in his memory. He will think about it rationally and see how it can be applied to his life. He will look around him at all things of life to find confirmations of it; and, led by the Lord through his love of truth for the sake of truth, he will everywhere find evidence and support for it. What is not confirmatory of it, he will cast aside as of no importance. What is confirmatory, he will take to himself, to bolster and support it. And thus will he, too, root spiritual truths in natural truths, and even with him, order will be made perfect.

SWEDENBORG'S FLYING MACHINE

Machine att flyga i Wadret. Enligt utkast av Emanuel Swedenborg. Bokforlaget Facsimilia, Stockholm, 1960.

For ages man has gazed at the sky and admired the flight of the winged creatures and dreamt of the ability to move around in the air as easily as the eagle. Until recent times, however, few had taken practical steps towards realizing that dream. It is not surprising that among those few we find Swedenborg as one of the foremost. His searching and active mind had an ability not only to grasp ideas with great intuition and imagination but also to see their practical applications.

Scientists of his day tried to solve the problem of flying along the lines of the "system lighter than air." Swedenborg, however,

was decidedly for the "system heavier than air" as being the one most in accord with the nature and quality of the air. While most constructors of the latter school tried to imitate the birds' flight, Swedenborg "for the first time indicates a fixed, arched plane as the actual carrying organ, driven forward by an arrangement like a propeller." (Tord Angstrom, *Daedalus*, The Journal of the Stockholm Museum of Technology, 1932)

Last year a book was published in Stockholm containing Swedenborg's sketch of a flying machine and articles about Swedenborg and his project. The text is in both Swedish and English.

The book opens with a short biography of Swedenborg by Sven Rosen, Ph.D. Its main purpose is said to be to give a short review of Swedenborg as a natural scientist and practical inventor. The other side of his personality, that of a "spirit seer," was to be treated of only so far as is necessary to "give a psychological explanation of his double-sided nature." The purpose of the biography is fairly well met, though one would have welcomed a more systematic treatment, showing the development of Swedenborg as a scientist and philosopher as revealed by the sequence of subject matter in his scientific-philosophical works. The reader receives a good picture of the great variety in Swedenborg's early activities and of his achievements in different fields. It is regrettable, however, that the accuracy of the biography is diminished considerably by several unnecessary errors. Dr. Rosen states that Swedenborg entered the University of Uppsala at 19 years of age (1707). Actually he was already registered in 1699. He thus spent most of his childhood and youth in Uppsala and not at his father's residence, Brunsbo at Skara, as Dr. Rosen indicates. Bishop Swedenborg moved to Skara first in 1703. The description of the Galley-transport is also highly inaccurate—not to mention some other errors and misstatements.

Dr. Rosen makes great effort to explain Swedenborg's personality (and to excuse his later theological period?) by referring to the religious and mystical atmosphere in Swedenborg's home and in his time in general as well as to the dominating influence of heredity and environment. The leading of Providence and of a Revelation, as Swedenborg himself claims, are not even mentioned. The general tone in the biography, however, is favorable, and it is obvious that Dr. Rosen feels deep admiration for Swedenborg as a personality and for his achievements.

Dr. Rosen also re-tells the legend of Daidalos, which is followed by a short note on the Northern Daedalus by Olle Hjern.

The rest of the book is devoted to Swedenborg's plan for an aircraft, introduced by a short article by Tord Angstrom reprinted from *Daedalus*, The Journal of the Stockholm Museum of Technology, 1932. Mr. Angstrom points out that Swedenborg in his plan describes for the first time certain principles which later led to the solution of the problem of flying.

Swedenborg wrote two slightly different descriptions of his idea of an aeroplane. One of them is preserved in manuscript in the Diocesan Library at Linköping and shows, besides a detailed description, Swedenborg's own drawing of his flying machine. The manuscript, which is in Swedish, is reproduced in the book and followed by a transcript and an English translation. The handwriting is partly very difficult to read but the transcription as well as the translation into English are well done except for a few, mostly insignificant, mistakes. A rather serious error occurs in the first paragraph where the Swedish word "widare" has been translated as "smaller" while it really means "wider" or "broader."

The other version was published by Swedenborg in *Daedalus Hyperboreus* and is reprinted in facsimile. The English translation is by Dr. Alfred Acton and taken from his *The Mechanical Inventions of Emanuel Swedenborg*. Though the translation as a whole is very good it contains some mistakes which could have been corrected.

The book is well printed in an easily readable type and richly illustrated, including a reproduction of Per Krafft's painting of Swedenborg and vignettes from *Principia*.

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