

The New Philosophy.

A Journal devoted to the exposition of the philosophy presented in the scientific, philosophical and theological works of Emanuel Swedenborg.

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PSYCHOLOGY WITHOUT A PSYCHE.

THE science of psychology, by many authors, is treated as a merely natural science; the soul itself, as a distinct existence above the physical, being either denied altogether, or treated problematically. The effort is made to explain all the phenomena of the mind and soul as due to physical causes. Psychology is the science of the soul; and psychology which treats of the soul as non-existent is a psychology without a psyche. If soul phenomena are treated as physiological effects, to be explained merely as the result of brain tissue vibration and action, the science is brought down to a description of mere states and conditions of the brain, and it becomes a branch of physiology. Moreover psychology under such conditions is measured by and subjected to physical laws alone. The attempt to treat psychology as a natural science, inevitably leads to this result, so that the soul as a distinct entity is ignored or denied.

It is recognized in other branches of science, that the general position from which the facts of the science are viewed, produces a true or a false science, according as the general position is true or false. For instance, it was formerly believed that the earth was the centre around which sun, moon, stars and planets revolved. All the apparent movements of these bodies in the heavens were explained on this supposition, until the system broke down from its own inconsistencies. The fundamental supposition was wrong, the facts of observation were placed in a false position, and a false science resulted; but when the sun was found to be the centre, and the facts were viewed from this new position, they were found to be in complete harmony with the system. Thus a false science resulted from viewing the facts from a false centre, but a true science from a true centre.

It must be the same in any science. Thus in psychology, if the soul is a distinct existence above the physical, organized in the human form, of substances of a higher order than the physical, and subject to higher or spiritual laws, whilst based on the physical and flowing into it, we must view all the manifestation of soul and mind activities in the

light of this truth, and from the nature of those spiritual substances and laws. Otherwise we shall fail to see the true interpretation of the phenomena of psychology. There seems to be a very strong inclination among many scientific men against the admission of any thought which favors the existences of the soul as a spiritual organism on its own plane. They regard all existence and all substance as confined to the material plane of nature. Thence they are forced, by this attitude, to ascribe all phenomena to material causes, including the manifestations of life and of mind. Thought, feeling and affection are thus regarded as the result of changes in brain tissue. Memory, will, consciousness are explained on physiological grounds alone, by which the distinction of degree between mind and matter is destroyed, and the degrees of the mind itself are lost sight of. Explanations of mind operations, of the processes of mind formation, and of the laws governing it, when made from such a materialistic theory, must of necessity be worthless, and they must bring into the subject a confusion and obscurity as great as that which the Ptolomaic theory of the solar system brought into astronomy.

Swedenborg's doctrine of degrees, in application to this subject of psychology, and of the existence of a spiritual world in which the soul or mind dwells as an organized human form, seems to have made a strong impress on modern theological thought, at least in some directions, the resurrection of the material body being almost abandoned by intelligent men. But his treatment of the soul, its nature, degrees, laws, modes of development, and its relation to the physical body, brain, nerve tissue, etc., needs to be more fully brought to the attention of the world.

In the growth, formation, and development of the mind, it seems as if it were built up altogether from the results of sense perception and experience. Science in a large measure follows this appearance in treating of the subject, and yet, whilst the materials of growth are thus furnished from without, Swedenborg reveals to us the other side of the subject, and shows that the soul is an organ-

ism receptive of life from God, which flows in by an internal way. The soul is the active, living, and substantial organism using the body as an instrumental means for acquiring a knowledge of external things extant in nature. These knowledges so acquired are not a mere unorganized mass, but by this inflowing life are systematized, arranged, and incorporated into the organism of the mind, being used to further and promote its development in a manner corresponding with the reception and appropriation of food by the body.

The Word itself is a Divine psychology when viewed as to its internal sense as unfolded in the Writings of Swedenborg. Here we learn the true nature of the human mind, of its formation and development from earliest infancy to the last of life on earth, and further of its state after death. Here we may learn of the laws of human development, and of the things which are appropriate and useful as food for the mind in its various ages. Moreover we also learn of the things which are injurious to its life and growth, and which must be eliminated from its structure in order to attain to a full realization of the Lord's design and purpose in creating man. No treatment of the subject of psychology is worthy of so exalted and noble a subject which is not directed by a knowledge of discrete degrees ;

for this doctrine is as it were the ladder of ascent by which we can be elevated to the plane of the soul itself, and perceive it in its relationship to the things of nature.

It is not our purpose to speak disparagingly of the labors of men of science in this field of work. They are doing a great and important work in the accumulation of facts bearing on this subject ; but at present these facts are arranged in systems and theories which do not agree with truth itself, and before they can be seen in their true light, they must be viewed from the acknowledgement that the soul is the real man, existing in a sphere higher than the material world, with its conditions of time and space. In this view the body is an instrumental means by which the soul can be present and operate in nature without at the same time being subject to and limited by its laws. Psychology is not a branch of physiology, even as the soul is not a part of the body ; but yet the body, as being the perfect instrument through which the soul operates, serves as a representative of the soul and its organism ; but when the science of psychology is reduced to a mass of experimental facts and observations arrayed under a materialistic theory of nerve and brain action alone, it is a body without a soul.

THE PHILOSOPHY OF EDUCATION.

II.—The Word of God in Education.

IN THE NEW PHILOSOPHY, Discrete Degrees have been treated of, showing that there are discrete degrees of substances in a descending series, from God to the lowest things of nature. Man also is organized of these substances, his body, bone, muscle, nerve tissue, etc., from the materials of nature, and his mind, spirit or soul of the substances of the spiritual world, which is a discrete degree above nature. These substances of the mind are in a human form, but more perfect than the body, and subject to higher or spiritual laws. The human mind is therefore a complex organism, and for its correct formation a knowledge of its degrees and nature is necessary. As educators are engaged in the work of upbuilding the mind, in order to do this work intelligently, it is necessary to know both the nature of the mind, and also the things that will build it aright, before the work of education can be carried on successfully. In the philosophy of Swedenborg we shall find that broad and comprehensive knowledge which will serve as a guiding star through this vast field of human activity and knowledge. In general the development of the human mind and life is briefly shown

in the following passage from the *Arcana Celestia* :

“ With every man there are two parts, the will and the understanding—the will is the primary part, the understanding is the secondary. . . The will with man is formed by the Lord from infancy to boyhood, which is effected by the implantation of innocence and charity toward parents, nurses, infants of similar age, and by many things which man does not know, which are celestial things. Unless those celestial things were first insinuated in man whilst he is an infant and a boy, he could never become a man. *Thus is formed the first plane.* But because man is not man, unless he is also endowed with understanding, the will alone does not make man, but the understanding with the will, and the understanding cannot be formed except by knowledges and cognitions, wherefore he is to be imbued with these from boyhood, *thus is formed the second plane.* When the intellectual part is instructed in knowledges and cognitions, especially in the cognitions of truth and good, then first man can be regenerated ; and when he is being regenerated, truths and goods are implanted by the Lord by means of cognitions in-

to his celestial things which had been given to him by the Lord from infancy, so that his intellectual things may make one with his celestial things. When the Lord thus conjoins these things, he is gifted with charity, from which he begins to act as a principle of conscience. He thus first receives new life, and this by degrees. The light of this life is called wisdom, which then takes the first place and is exalted above intelligence—*thus is formed the third plane*. When man becomes such in the life of the body, he is continually perfected in the other life. Thence it may appear what the light of intelligence is, and what is the light of wisdom."—A. C., 1555.

In order that man in his development may be led to the final end, which is eternal life, two classes of knowledge must be acquired, namely: knowledges concerning the world and life in the world, and knowledges concerning heaven and heavenly life. These also must be communicated in each age mentioned above, namely: in infancy, childhood and youth and adult age. The knowledges concerning the world form the basis and foundation, but the knowledges concerning heaven are the essence and life which vivify the lower. We will here treat of the knowledges concerning heaven and heavenly life and show their importance and value in a true education.

In treating of the Lord's development as a child, Swedenborg in the *Arcana Celestia*, says:

"The Lord was instructed as another man in boyhood. . . . His external man could not otherwise be reduced to correspondence and agreement with the internal man than by cognitions. The external man is corporeal and sensual, nor can it receive anything spiritual except as cognitions are implanted in ground, celestial things can have their recipient vessels in these. *But the cognitions should be from the Word*. Cognitions from the Word are such that they are open from the Lord Himself; for the Word itself is from the Lord through heaven, and in each and everything of it there is the life of the Lord, although it does not appear in the external form. Thence it may appear that *the Lord in his boyhood did not wish to imbue any other cognitions than those of the Word*, which was open to Him, as was said from Jehovah His Father, with Whom He was united and became One; and this the more, because there is nothing said in the Word, which in its inmosts does not regard Him, and which does not first come from Him. For the Human Essence was only an additament to His Divine which was from eternity."—A. C., 1462.

We quote this to show the supreme value of knowledges from the Word. In them is the life of the Lord, for the Word in the letter is an external

form or vessel in which more and more interior things of the Divine Wisdom and Life are contained, in this respect it being like nature itself, for in each thing which appears before the eye, many particulars are contained. On account of this quality of the Word, the Lord wished to imbue or implant in his mind and life only these knowledges, for they contained the very Divine Wisdom Itself, and therefore their acquisition is of the greatest importance to us also.

The knowledge of things from the Word should be taught in all ages of man, but in a form adapted to the state. Even in the age of infancy it is of great use in laying the foundation for his future development. This may appear from the following:

"In the course of man's regeneration, he is led of the Lord at first as an infant, afterward as a child, next as a young man, and lastly as an adult. The truths which he learns as an infant child, are altogether external and corporeal, for as yet he is unable to apprehend interior truths, those truths are no other than knowledges of such things, as contain in their inmost principle things Divine; for there are knowledges of things which do not contain anything Divine in their inmost principle, and there are knowledges which do contain. The knowledges which do contain what is Divine, are such that they can admit interior truths more and more, successively and in order; whereas the knowledges which do not contain what is Divine are such that they do not admit but reject such interior truths; for the knowledges of good and truth external and corporeal are like ground, which according to its quality admits seeds of such and such a nature, and no other, bringing to maturity one kind of seeds, and suffocating another. The knowledges, which contain in their inmost principle what is Divine, admit in them truth and good both spiritual and celestial, possessing this capacity by virtue of the Divine principle which is within, and which disposes them thereto; but the knowledges, which do not contain in them what is Divine, admit only what is false and evil, such being their nature. . . . Those which contain what is Divine and thus are admmissive of genuine goods, such as are the knowledges with infant children who are afterward regenerated, are in general such as are contained *in the historical parts of the Word*, as in what is said therein of paradise, of the first man, of the tree of life in the midst of paradise, and of the tree of science, where the deceiving serpent was. These are knowledges which contain in them what is Divine, and admit into them goods and truths spiritual and celestial, because they represent and signify those goods and truths. Such knowledges are also contained in the other historical parts of the Word, as in what

is said of the tabernacle, and of the temple, and of the construction of each. In like manner in what is said of the garments of Aaron and of his sons; also of the feasts of tabernacles, of the first fruits of harvest, and of unleavened bread, and of other things. *When these knowledges are known and thought of by an infant child, then the attendant angels think of the Divine things which they represent and signify; and inasmuch as the angels are affected therewith, their affection is communicated, and causes the delight and pleasure which the child experiences therein, and prepares the mind to receive genuine truths and goods.*"—A. C., 3665.

This shows to us that there are two classes of knowledges, one living and the other dead. The living contain what is Divine, but the dead knowledges do not contain what is Divine. Living knowledges are from the Word, because in this there is Divine Life. In the period of infancy these living knowledges are from the historical parts of the Word, those which are in the form of story, or history. Whether constructed history as in the first chapters of Genesis, or in real history such as dates from the time of Abram. Did space permit we could adduce a great amount of testimony from the various works of Swedenborg to show the value of the Word in the implantation of remains, or of states of life, which afterward serve as the very foundation of the spiritual life and character. The Word gives living knowledge, and here is a valuable suggestion to the mother, the nurse, the kindergartner, to make these stories the central object of their work. In the amusement and education of infant children, the stories of the Word, beautiful and fascinating as they are in the external form alone, are yet passed by, for the purpose of taking up fairy stories, some of them objectionable in their form and nature, yet the stories of the Word are the only ones that are vessels for the reception of the Divine. Hence we may see that a system of education which makes no use of these stories is not perfect, for it omits from the infant's life the most potent influence for good. All the states of life implanted in man, even those developed in his earliest infancy, remain even to eternity, and serve as means for developing all succeeding states. According to the nature of the early development will be the quality of the succeeding life. These early impressions, the delight and pleasure in hearing the Word, though it be to them but a story, is stored up and becomes a means of implanting, in adult age, delight in the heavenly principles to which it corresponds. It also serves a purpose to the heavens themselves, aiding in their development, as may be seen from the following:

"It may seem a paradox, nevertheless it is most

true, that the angels have a clearer and fuller understanding of the internal sense of the Word, when it is read by little boys and girls than when it is read by grown up persons who are not principled in faith from charity. The reason is, as I have been informed, because little children are in a state of mutual love and innocence, consequently their receptive vessels are extremely tender and almost of a celestial nature, so as to be pure faculties of reception, which therefore are capable of being disposed by the Lord for the purpose, although this does not come to their perception, except by a certain sensation of delight suitable to their state and genius. The angels say, the Word of the Lord is a dead letter, but *it is vivified by the Lord, in the reader*, according to the faculty of each individual, and that it becomes alive according to his life of charity and state of innocence, which takes place with endless variety."—A. C., 1776.

In addition to the usefulness of the Word to infants, in the succeeding age of childhood, the knowledges of truth from the Word are the inmost of all the knowledges which can be acquired. The necessity of teaching these knowledges systematically may be seen from the internal sense of the twelfth chapter of Genesis, as unfolded by Swedenborg. Throughout this chapter it treats of the Lord, in his boyhood, being instructed in the science of knowledges; and as we have already seen, the knowledges from the Word were by Him deemed the most important. From this series we learn that instruction in knowledges is necessary for the upbuilding of the mind, and this is as necessary for the development of his spiritual part as for his natural. "Without knowledges previously acquired, man is not capable of forming a single idea of thought. The ideas of thought are grounded upon those things which are impressed on the memory by the objects and perceptions of sense; wherefore knowledges are the vessels of things spiritual, and affections, proceeding from bodily pleasures of a good quality, are the vessels of things celestial."—A. C., 1435.

"Knowledges are the means which open the way to behold things celestial and spiritual; by knowledges the way is opened for the internal man to flow into the external in which are contained the recipient vessels, which are as many in number as are the knowledges of good and truth with which it is furnished, into these, as their vessels, celestial things enter by influx."—A. C., 1458.

"Knowledges are learned and implanted in the memory, according to influx of the internal man."—A. C., 1460.

"The science of knowledges is thus circumstanced, that the deeper the subjects which are presented to view, so much the more ardently they

who cultivate that science desire to understand them, and when they are told of things celestial and Divine their desire increases. . . . The science of knowledges is only as something instrumental for the sake of use, viz: that knowledges may serve as vessels for the reception of things celestial and spiritual; and when they are thus serviceable, they then first begin to be of use, and receive their delight from use. It may appear to every attentive observer, that the science of knowledges is designed in itself for no other end, than that man may become rational, and thereby spiritual, and at length celestial, and that by means of knowledges the external man may be adjoined to the internal; when this is the case, then man is principled in use, for the internal man regards nothing but use. It is with a view to this end that the Lord insinuates also the delight which is perceived by children and young persons in learning the sciences. But when man begins to place his delight in mere science or knowledge, he is then influenced by corporeal lust, and in proportion as he is so influenced, or places his delight in mere science, he removes himself from what is celestial, and his scientifics become closed toward the Lord, and are rendered material; but in proportion as scientifics are acquired with a view to use, whether for the sake of human society, or the Lord's Church on earth, or His kingdom in heaven, and, more especially, for the Lord's sake, they are more opened toward the Lord, and become spiritual; wherefore also the angels, who are principled in the science of all knowledges, and that in such a manner, that scarce a thousandth part can be unfolded to man's apprehension, yet esteem knowledges as nothing in comparison with use."—A. C., 1472

"In this chapter are also contained these arcana, viz: how the Lord was instructed by his Father according to all order, and thus how his external man was conjoined to the internal; that is, how his external man in like manner as the in-

ternal, was made divine, by which, as to each essence, he was Jehovah. This was effected by knowledges, as by means or mediums. Without knowledges, as means or mediums, the external man cannot even become man."—A. C., 1475.

"Everyone should prepare the way for God, that is, should prepare himself for reception, and this should be done by means of knowledges. . . . Knowledges are the means by which man may ascend and know the Divine Esse. . . . Man has free will, and the faculty of procuring for himself knowledges, and as he procures them for himself from the Word, by means of the understanding, he thus prepares a way by which God may descend, and elevate him."—T. C. R., 24.

In order to develop the mind in any direction, knowledges are necessary, and these in infancy and childhood come only by an external way, and chiefly through instruction. Thence it may appear that spiritual development can take place only in proportion as suitable knowledges are acquired. In former times it was believed that God, in some miraculous manner, made man new in an instant of time, without any effort on his part; but in the light of the philosophy revealed through Swedenborg, this notion is seen to be erroneous, and that God works on the spiritual plane in a manner corresponding with that on the natural, and that order, harmony, and connected sequence is necessary to any spiritual progress. This being the case, and the acquisition of knowledge being the means, it may be seen that the work of implanting this knowledge from the Word is an essential element in any true educational system. That system which provides for its most perfect communication, in harmony with other needful and essential subjects of study, in the end, will be the most successful, because it will be in the fullest co-operation with the Lord's end in creating man, namely in forming a heaven from the human race.

JOHN WHITEHEAD.

THE LESSER PRINCIPIA.

Contents.*

1. A philosophical argument concerning the first principles of natural things.
2. That the infinite, as also the finite motion of the first natural point, produces a line, a surface and a body.
3. That the motion of the first natural point is through circles.
4. That the motion of the natural point is through a circular spire, that is through a spiral line, whence arises a figure or the first particle.
5. When the natural point flows spirally through a sphere, a space arises around the poles, into which this point does not enter.
6. That an equator may also come into consideration around this fluxion of the natural point.
7. The line which cuts at right angles all these spiral lines, forms a certain ratio of an ecliptic, and this ecliptic has a certain fixed node or conjunction with the equator.
8. That the transference of the point through

the ecliptic takes place at equal distances, but that those distances may be greater or less according to the velocity of the motion.

9. That this natural point does not return to the same place in the ecliptic, except after infinite circumvolutions; that the reason of this is that a perpetual and as it were continual surface may be formed.

10. That the fluxion of this natural point is perpetual and everywhere equal.

11. That this fluxion of the point can be called neither motion nor rest, but that it has something common from both.

12. That one point can separately form a surface, and also many points together if they flow in the same circle and in the same manner.

13. If many points flow in divers circles of the same sphere so that they nevertheless cross the ecliptic at the same time, but not in the same degree of the same, they may be contiguous in the polar circle, especially if one point be near another.

14. Concentric points do not easily run harmoniously, but flow interruptedly in the same surface; but if they do not meet while making their first circuit or circle, they will never meet afterwards.

15. If all the circles consisted of infinite points, those circles with their points could not be brought into that gyre or spire, unless one point moved another from its place; hence they cannot act harmoniously unless the points in each circle be separated from each other.

16. If the points are eccentric, and the distance of the centres equal to or less than the diameter of the sphere which is described, it may happen that one point will come more or less into contact with another; it may also happen that they never come into contact.

17. That points so constituted come into contact sometimes more swiftly and sometimes more slowly.

18. The various consequences arising from the colliding of the points.

19. If the centres be gradually advanced toward one another, it then follows that all the points become disturbed, and the figures otherwise transposed.

20. If the points collide directly at the equator of each, there arises thence no change of figure, but as it were a sudden inversion of the same figure.

21. If the points come into contact they recede from one another according to the obliquity of their conjunction, namely: in that direction in which a line be drawn which is mediate between the line of the centres and its tangent.

22. That intermediate line, by which the point recedes from its prior place, is the tangent of an-

other circle; if from this tangent a perpendicular be dropped we will straightway leave the centre of the new circle which the same point forms. By such collisions the circles can be removed no further than the distance of the semi-diameter, neither more nor less, except they be advanced beyond by the point of another circle.

23. That the first motion is pure motion, and that it is spiral derived from the centre itself toward the periphery; wherefore in that motion the positions of the poles are infinite and the gyration infinite and the motion of most perfect gyration, from whence that other spiral motion must arise, the description of which has already been given in the foregoing articles.

24. The fluent natural points in their first state cannot be said to be transferred from place to place.

25. If there were a certain sphere of activity and these fluent points enclosed in that sphere; or if there was a particle in which these said points were enclosed, then in certain ways might they be at rest, while in others to be transferred from place to place.

26. *The first particle.* The point quiescent as to its centre we will call a particle of the first kind or the first particle.

27. *The second particle.* The particle of the second kind is a point flowing together with its centre through spiral circles.

28. *The third particle.* The third particle is composed of a surface consisting of points or particles of the first kind, and within of enclosed fluent points or particles of the second kind.

29. That the fluent points by means of their motion, at length surround themselves with a surface consisting of points of the first kind.

30. That the surface of the third particle having thus arisen, arrives at length at the same degree of velocity as the enclosed fluent points; and that the motion of this surface can no longer be arrested.

31. That the motion of the surface or of the third particle is the same as the motion of the enclosed point, namely: spiral.

32. That in the surface of this particle there arises by motion the position of the poles, an equator, an ecliptic, an equal progression according to the ecliptic, etc.

33. That the enclosed fluent points or particles of the second kind follow the motion of the surface and gyrate together spirally even to the centre.

34. That the enclosed points, even to the centre, are drawn together into a spiral gyre, but that the points more remote from the surface do not thus follow and obey this motion, but gradually withdraw themselves; also that the point located

in the centre itself simply turns according to the equator.

35. That the fluid matter which enters, goes in through the polar cores even to the centre, and remains in the centre.

36. That there is a certain centripetence in this particle, and the nature of a certain vortex.

37. That in this particle there is a perpendicular from the centre to every part of the periphery, and a horizontal line whithersoever any part is borne by any circle parallel to the circle of the centre or of the surface; also that the progression of any part, according to the said perpendicular, or a progression toward a given circle parallel to the surface, and greater or less than the spiral motion, is a motion from place to place, but is otherwise rest.

38. That the first or superficial particles also betake themselves into the surface of the polar cones.

39. That the superficial matter next the walls of the polar cones, even to the centre, that is from each part, can be twisted round.

40. That the centre may increase in some measure from the superficial matter and the particle be thus compressed as to its surface.

41. If the globule of the centre be less, it is moved by the equator as it were around its own axis, but if it be greater and the fluid matter very near, it is indeed turned according to the circle of the equator; still there is some tension of the motion toward the polar segment.

42. So long as the effort toward the poles continues, the central globule cannot be exactly round but ecliptic.

43. When the superficial matter flows into the centre, then the figure of the polar cones changes to some extent.

44. In the same manner the circumambient or inclosed matter is able to flow through the walls of the polar cones, at the centre or at some distance from the centre.

45. The heavier matter seeks the centre, and the lighter the surface; whence the sphere is so distinguished that the heavier parts settle in the centre, and the lighter parts separate themselves by degrees from the centre.

46. That the polar cones can also be replenished by the fluid matter.

47. That the motion of the matter in the polar cones is spiral, around the axis toward the centre, where it terminates in a circle whose diameter is perpendicular to the axis of the poles.

48. That in the polar cones the axis through its whole length is the seat of centripetency.

49. In the polar cones the circulation near the

centre is swifter than at a distance thence, but still the motion is slower.

50. There is also a certain centripetence according to the axis even to the centre, but it is less than in the sphere itself.

51. The line parallel to the axis is triangular at the centre.

52. That in the polar cone a heavy body falls toward the centre in a parabolic line, and that a light body ascends through the same line.

53. The lighter material separated from the central globe, may be carried toward the surface of the sphere, but not outside of it except through the polar cones.

54. The light and fluid matter, enclosed between the surface and the central globe, goes in and out through the poles and not otherwise.

55. These third particles can be most easily contracted and dilated, and this indeed by the mere contact of the surfaces which are adjacent, for nothing impedes the compression and dilatation, neither the surface or its structure, nor the enclosed points.

56. Although the particle be smaller, still the pressure in the surface remains the same; and in regard to the circulations of the surface, they are more numerous in the lesser particle than in the greater.

57. If the particle be less it possesses a stronger influence on the central globule than if it were greater.

58. The whole surface can be brought together into a certain globule.

59. The central globule without a surface and inclosed mobile matter, loses its own mobility; neither does it have any other except what it receives from the motion of the adjacent particles.

60. It has been shown that the mobile matter or particles of the second kind flow within the particles of the third kind; in like manner also the particles of the second kind flow outside of the particles of the third kind.

61. If the particles of the third kind be compressed or dilated, the same amount of fluid matter is still required within and at the same time without.

62. The fluent points or particles of the second kind, on account of various causes, can bring themselves together into one, and separately join a certain volume, which volume can also be greatly increased.

63. That the sun and stars derive their origin from this cause

64. That such a sun or star may perish or disappear.

65. That the said solar fount propels into a certain gyre all the surrounding matter, consisting

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of particles of third kind; which gyre becomes greater and greater according to the increase of the fount. This spiral motion however is near the fount, at a distance thence it terminates in a motion almost circular, according to a certain ecliptic.

66 Around all the particles of the third kind there is a sphere consisting of points of the second kind.

67. However many particles of the third kind there are conjoined with their spheres, or in whatever manner this takes place, they still always observe their polar position, and cannot in any manner be bent thence, except they fall back again into the same position.

68. Pole cannot be conjoined to pole, except at a distance about the pole of the sphere.

69. The particles of the third kind cannot be conjoined except about their ecliptics.

70. The motion of the great vortex or universe is according to the ecliptic.

71. The position of the particles varies according to the distance from their source (fons); if the ecliptic change, it changes the position of its pole and consequently its nodes, not only with regard to the equator, but also with regard to the ecliptics of the particles at a distance more remote thence. The like happens in the motion of a greater vortex.

72. In the motion of a great vortex there exists a certain pressure amongst the particles, which is less at a greater distance from the sun and greater at a less distance; and that (the particles) are very sensitive to pressure.

73. *Fourth kind of particle.* From the said pressure the particles of the third kind are diminished, the surface relapsing into a certain central globe, whence is produced a particle of another kind, here called a particle of the Fourth Kind.

74. The further it is from the sun or source, in that degree is the central globe less and the superficies greater; and the reverse.

75. The smaller a particle of the fourth kind is, the more revolutions it makes in the same time, that is, its surface.

76. The smaller the surface of the particle of the fourth kind is, the greater is the motion of the central globe, this motion being according to the circle of the equator.

77. All motion in the surface of the particle of the fourth kind, proceeds toward the centre and tends into the surface of the central globe.

78. The sphere around the compressed or smaller particle of the fourth kind is greater than that around the uncompressed particle of the third kind, hence it can with difficulty be bent from its polar to its ecliptic position.

79. The central globule lies in its equilibrium, and it cannot be said otherwise, than that it is without motion, although it is turned according to the equator.

80. *Fifth kind of particle.* Near the source of motion or the sun the compression is still greater, and the whole superficies passes away into a globule, so that it is a simple globule (*nudus globulus*) without a superficies separately surrounding it. This is the particle of the fifth kind.

81. That the globule or particle of the fifth kind is so small, that matter of the second kind cannot exercise any force upon it, but that the spiral gyration perishes together with other qualities which came into consideration in connection with the particles of the third and fourth kind.

82. This globule of the fifth kind is so small that the circumfluent points cannot force it into a spiral motion.

83. There is the same weight in this globule, as there is in the whole third particle, and a volume consisting of fifth particles is very heavy.

84. That this great pressure existed at the very beginning of things before the solar vortex was duly formed.

85. That the fifth particle could have no equilibrium with the third and fourth particles.

86. That the sun at the beginning of things was covered over by a crust consisting of such particles, and consequently it was obscured. Thus the origin of the solar spots.

87. That the sun was meanwhile increased by the subtle matter of the third kind, even while that broken crust was withdrawing.

88. That in the forementioned crust or in the volume of fifth particles, there flows a great abundance of subtle matter, or of particles of the second kind.

REGINALD W. BROWN, Translator.

[TO BE CONTINUED.]

* Dr. Tafel, in the "Documents Concerning Swedenborg," says of this work, that "It was never published by Swedenborg, but it may be fairly considered the first cast of the larger work; and it is an indispensable help to the proper understanding of it. For while in the latter work the results at which the author arrived are presented in strictly synthetical order, in the former these results may be studied genetically or in successive order. Instead of the finites, actives, and elements of the larger work, we find here 'particles' from the first to the tenth order, and their genesis is described with all the necessary mathematical formulæ and diagrams, so that this work serves to explain several of the diagrams and demonstrations which have remained unintelligible in the larger work."—Vol. II, p. 89).