

THE CONCEPT OF SPACE IN THE PHILOSOPHICAL WORKS *

CHARLES R. PENDLETON, PH.D.

I. The Background

1. The concept of space in Swedenborg's philosophical works could be no other than one which recognizes a full natural world. Those concepts which deny the existence of the natural world, or demand a vacuum, are impossible. The concept of space as three dimensions leaves so many statements unexplained that it is equally impossible. The only major concept of space which acknowledges a full natural world is that of Leibnitz. This Swedenborg used as a beginning for his own concept of space.

2. Leibnitz's concept regards space as a relation between material objects. This theory is not easy to comprehend, but neither are the other three theories. In fact, present-day philosophers complain that there is no satisfactory concept of space (Russell, *The Philosophy of Leibnitz*, p. 112, George Allen and Unwin Limited, London 1951; Alexander, *Space, Time and Deity*, p. 35, The Humanities Press, New York, 1950). Swedenborg, however, found the relational view good enough for the start of his studies of this enigma.

II. Swedenborg's Concept of Space in 1734

3. Swedenborg's concept of space in 1734 is essentially the place concept, with Leibnitz's relational view, having modifications which are his own. "Extense" is still a repetition of entities; but space has become one of two specially defined relations between entities.

4. The natural point is indivisible, and is therefore not an extense because it cannot be a repetition of entities. It is not spatial because it cannot be a relation between entities.

5. The finites, since they consist of parts, by Swedenborg's definitive concept, may be spatial under certain conditions, and non-spatial under other conditions. There are two different criteria for determining this; the one is encirclement involving inertia; the other is a position, which has an "up and down" relation.

* The second in a series of three articles.

III. *The Place Concept and the Relational View*

6. The place concept with the relational view is acknowledged in several places in the earlier works. Two quotations will show this:

"Space and place are relative to what is contiguous. They can exist only in a contiguous expanse from one particle to another, as from one limit to another. For space is always limited, formed, and terminated in real entities" (I *Principia*, X: 2. Tansley translation 1912, p. 225; hereafter abbreviated as Tan. 225).

"There is in this point motion, a figure of motion, and consequently figure . . . also place and consequently space" ("Some Arguments for the *Principia*," no. 4 *Scientific and Philosophic Treatises*, Part 1, p. 115).

7. Other references are: *Prin.* III, chapt. IV, first paragraph (Tan. II, p. 172); *ibid.*, I chapt. VI, no. 3 (Tan. 159); *ibid.*, I chapt. II, no. 16 (Tan. 67); *ibid.*, I chapt. VII, no. 14 (Tan. 203).

IV. *The Indivisibility of the Point*

8. The natural point is indivisible because it is nothing but a form generated by motion in the infinite substances; it is hence not composed of smaller forms. Both Clissold and Tansley have mistranslated passages making this latter statement. They should read, i.e., "this motion presupposes no substantial by which it may be said to exist" (I *Prin.* II, 13; Tan. p. 62). By "substantial" here is meant a corpuscle or finite, as is shown by later usage of this word, e.g., the third finite is called the third substantial (*ibid.*, VIII, 1; Tan. p. 212).

V. *Extension and the Point*

9. The natural point is not extended because it does not consist of parts. This the *Principia* states:

"*This Point cannot be conceived as having extension. It is without parts and consequently indivisible. . . .* If it is destitute of parts it must be indivisible, if it be divided it will be annihilated. By reason of its motions it may be called a *quasi*-extense. But for the reason that there is no substantial which is moved, that it can-

not be divided unless it be annihilated, and that it has one limit and is thus a simple, it must be pronounced to be without expanse" (I *Principia* II, 14; Tan. 65).

10. The *Principia* in one place (V 22; Tan. 155) says that the active of the Natural Point is without dimensions; and the *Infinite* says it is "without parts, in consequence of which it is destitute of extension, space, dimension and figure" (*Infinite*, II, p. 154; London, 1902 ed.). "Dimension and figure" here must be understood in connection with other statements, however, because in "Some Arguments for the *Principia*," although Swedenborg says that the point is "devoid of magnitude," is "not extended," and "fills no space" (no. 3, page 114), nevertheless, in the same treatise he says that the infinite motion which produced the point must be "most perfectly circular, in every dimension" (*ibid.*, no. 5, page 118).

11. This seemingly "hopeless confusion" is explained in this way: since figure involves space, the point cannot have figure unless "figure" be simply understood. This is explained by the relational concept of space (I *Principia*, II, 16; Tan. 66).

VI. The Point and Space

12. According to the relational view of space, the point is non-spatial because there cannot be a relation between the parts which constitute it. But the Natural Point of Swedenborg is not the simple formless entity of his predecessors. It is created by a spiral motion which has a "center" and a "periphery," the motion "proceeding from the center to the periphery and reciprocally" (I *Principia* II, 22; Tan. 73). These are not parts of the point, but they may be called an analogue of parts. Therefore the *Principia* says of the Natural point:

"Neither can it be said to fill space unless it be space understood as simple. . . . In respect to finite things having many limits it is not a space; but in respect to that pure motion from which it originates, it may be said to have a certain space, (but this may be said) only analogically and by reason of this attribute" (I *Principia* II, 15; Tan. 66).

VII. *The Size of the Natural Point*

13. The Natural Point has a definite size, although it is exceedingly minute. It is so minute, in fact, that its minuteness is incomprehensible. This is so important that it is explained in the earlier works in five different ways: I. by statements that it is so small that it is almost nothing; II. by comparison with the Point of Zeno; III. by the composition of the first finite; IV. by analogy with the Mathematical Point; and V. by a geometrical construction involving the radii of a circle.

14. The natural point is said to be "extremely minute" (*I Principia* II, 23; Tan. 74); to be "infinitely small" ("Some Arguments," no. 3, p. 114); and not "infinitely small" but "indefinitely small" (*Infinite*, p. 26).

15. When describing the quantity of the point, the *Principia* says:

"In respect to quantities, or when geometrically considered, this point is as it were (*quasi*) nothing, or escapes the imagination. For although it is the origin of so many and such great finites, yet in finite things it equals to almost nothing" (*I Principia* II, 18; Tan. 67).

16. And again, when describing the pure motion which creates the natural point, Swedenborg says:

"Because it cannot be conceived geometrically, such a motion is not therefore nothing. . . . A simple cannot be conceived geometrically, but it is not therefore nothing" (*I Principia* II, 12; Tan. 62).

17. The size, or mass (as we say today), of the natural point can be understood best by a comparison with the point of Zeno (*I Principia*, II-7; Tan. p. 56). Zeno's point is obtained by dividing a line again and again, with the resulting subdivisions eventually becoming so small that they are incomprehensible. Zeno claimed that the dividing process could never be completed, but that nevertheless the subdivisions could never reach zero, or become nothing. Swedenborg, however, must have believed that in actual substances, there is an end of the possible divisions, because the natural point is a definite entity and not an endless set of divisions. He says: "This least extense or quantity must be either the least of nature, or similar to the least, or the simple (*Infinite*, p. 26).

18. The composition of the first finite shows that the natural point has a real size, and is not a point of no dimensions, because no amount of dimensionless points could be massed together to form a dimensional entity like the first finite. Swedenborg does indeed refer to those geometrical constructions where a moving point will generate a line, etc., but a careful reading shows that this was used, not to show that geometrical points can create an actual entity, but to show "that things finite are generated by fluxion and motion, and that without this nothing which is the subject of geometry could exist" (I *Principia*, II, 24; Tan. 76).

19. The analogy of the mathematical point also shows the minute size of the natural point when the "mathematical point" is properly interpreted. But this interpretation cannot be the mathematical point as we understand it today, for this point is so different from Zeno's point that both could not illustrate the same idea. Either Swedenborg must have had another mathematical point in mind, or he must have used the term "mathematical" in a very loose way.

20. If Swedenborg had another kind of mathematical point in mind, Leibnitz's monads agree completely with the point of Zeno. Leibnitz's points resulted from the ultimate division of matter. They were real unities, the size of which was measured by the distance between a curve and its tangent. According to Russell, Leibnitz's points were "neither zero, nor finite, nor mathematical fictions" (Russell, *The Principles of Mathematics*, Vol. I, p. 325, Cambridge, The University Press, 1903). Agreeing in a remarkable way with that "kind of medium" between the Infinite and the finite which is the Natural Point (I *Principia* II, 6; Tan. 56), Leibnitz, in his earlier years, called his points mathematical points (Russell, *Leibnitz*, p. 122); but they were "animated points" (Duncan, *Philosophic Works of Leibnitz*, p. 395), and were identified with the soul (Russell, *ibid.*, p. 122). Later Leibnitz called his mathematical point, the point of view of his substances. Still later, about twenty years before he died, he discarded the terms mathematical points altogether, and used the word monad for the first term to describe his substances (Russell, *ibid.*, p. 124).

21. Swedenborg still further illustrates the minute size of the natural point by a geometric construction which seems to be his own. The radii of a circle approaching the center come closer and closer together, and concentric circles drawn inside the cir-

cumference become smaller and smaller. The circle nearest the center, or, better, one of its arcs, represents the size of the natural point. The center itself is nothing (I *Principia* 16; Tan. 66).

22. These five different descriptions of the nature of the natural point show beyond any possible doubt that the natural points have an infinitesimal size. These statements could not have been made of the mathematical point of today, which is a mathematical fiction, nor could they have been made of an entity which is non-extended and non-spatial, as we use these two words today. But all these descriptions can be given to an entity which is non-spatial and non-extended in the relational concept of space.

23. It is for this same reason that Swedenborg can say that the extended can arise from the non-extended, the spatial from the non-spatial, a finite space from the infinitely small; just as numbers arise from unity, the compound from the simple, the pure from the mixed, the whole from the part (I *Principia* II, 14; Tan. 65; 12, Tan. 62; "Some Arguments," p. 116).

VIII. Two Criteria for Space

24. Two criteria for space are found in the *Principia*, criteria which apply to the higher finites.

25. The first criterion for determining space is enclosure with consequent inertia; but its opposite, activity, is a criterion for non-space. Hence the actives themselves are non-spatial, and the surrounding passive finites are the only spatial finites. This is because only the passive finites can enclose; the actives, because of their local motion, move in such a way that they cannot enclose anything.

26. Swedenborg explains this as follows:

"There can be no place . . . unless the actives are enclosed in some space so that they can have their termini in those things which enclose the space. Otherwise they can have no space, for space is measured from the termini but not from the enclosed actives, so that there may be a distance from terminus to terminus. But within (the enclosure) there cannot be a distance from active to active, or from one surface or center to another surface or center. The diameter of the space cannot thus be divided into lesser degrees or distances except by means of (*respective of*) the contiguous things which are outside the space,

that is, except in an imaginary manner" (I *Principia* VII, 14; Tan. 205).

See also: *ibid.*, VII, 15 (Tan. 204); VI, 3 (Tan. 159); X, 2 (Tan. 225); VII, 14 (Tan. 203); V, 32 (Tan. 155); II, 16 (Tan. 67); III *Principia* IV, 1 (Tan. 172).

27. If this seems contradictory, it is because concepts springing from Newton's empty space predominate in place of those from the relational view.

28. The second criterion for space is position with respect to the earth and the sun. We now call this orientation; Swedenborg called it "upward and downward." This criterion appears in the *Principia* at least once, I *Principia* VII, 15 (Tan. 204); and once in the *Infinite*, p. 226. And it is to be found in many places in the later philosophic works, probably in all the major treatises, and will be discussed later.

IX. *The Concept of Space and the Soul*

29. The *Principia* apparently says little about the soul, but the *Infinite* discusses the relation between the soul and the concept of space:

"Its essence (of the soul) consists in activity. . . . Unless therefore we regard activity as involved in the Simple Finite, the latter is not identical with the soul" (*Infinite*, p. 157).

30. The accepted doctrine of the soul in Swedenborg's time, deriving from Descartes, no doubt, calls the soul non-spatial. Hence Swedenborg used his two criteria of space to declare that his structured soul is non-spatial. In a remarkable passage at the end of Part II of the *Infinite* he says:

"If you wish to conceive of that most active in the soul, it is not different from the actives of our *Principia*, Part I, Chapt. V, VII. Now the actives, considered separately from their membranes, cannot be conceived to occupy place or a determined situation nor to form a contiguum or an expanse; and consequently they are without contiguity and expanse; nor can there be considered in them any upward or downward nor anything resistant, but only pure activity (*agens*). Nor have they anything elementary or passive, but nevertheless they have pure mechanism. See the *Principia*.

All these qualities agree most exactly with the description of the soul according to the minds of those who love to call it not material but spiritual.

“This perhaps is that pure actuality and simple which is attributed to spirits and souls and which may exist as if it were without a conception of extense and of notions purely mechanical” (*Infinite*, Part II, Chapt. XIII, no. 5–6; ed. 1902, p. 226–7).

31. Swedenborg finds it necessary to explain, however, that there cannot be any finite actuality without local motion which is pure mechanism; also that the actives cannot operate unless enclosed in a space; and finally that the activity together with its own superficies constitute the soul (*ibid.*, no. 607, p. 228).

X. *Resumé for 1734*

32. The concept of space in the 1734 group of works is essentially Leibnitz's Relational View with certain modifications of Swedenborg. An extense is still a repetition of entities; but a space is one of two relations; either it is surrounding or enclosing finites and is hence not composed of actives, or it has a relation of “upward and downward,” or both.

33. The natural point, being indivisible, is not an extense because it is not a repetition of parts; and it is not a space because there is no relation between the parts. But it may be called a space if simply understood because of the relation between the *quasi*-parts of its formative motion.

34. The soul is essentially active, and the first finites, having the greatest activity of all truly finited entities, are the soul—that pure active essence which is neither material nor extended but is spiritual.

35. With certain modifications, these concepts are carried throughout the philosophic works.

XI. *The Problem of the Economy*

36. The *Economy* (1740) begins with two more or less opposed concepts: the spirituous fluid which is formed from the first aura of the *Principia* (EAK, II, 166), and above this the soul (EAK, I, 247, 270) which the theologians declare is non-spatial and immaterial. Throughout this work, these two concepts are drawn

together with the final conclusion that it matters not whether the spirituous fluid or its operation is called the soul (EAK, II, 303, p. 288); not the soul of the body alone, but the soul of the mind as well. For the *Economy* says:

“There are, then, two distinct principles that determine this spirituous fluid assumed as the soul; the one, natural, by which it is enabled to be moved in the world; the other spiritual, by which it is enabled to live and be wise” (EAK, II, 269).

“And as it is the soul, it is seated high above all the other faculties” (EAK, II, 276).

“It is a faculty distinct from the intellectual mind, prior and superior to, and more universal and more perfect than, the latter” (EAK, II, 277).

37. With this advance in the concept of the soul it is necessary that the first aura be declared non-spatial and non-material. The center of the first aura, composed of actives, is non-spatial according to the *Principia* concepts, but how the surrounding envelope of the first aura is to be conceived as non-spatial is a problem.

38. Wolff’s definition, that “Matter is an extense endowed with *vis inertiae*,” is sufficient to show, thinks Swedenborg, that the spirituous fluid is not material, because the first aura of which it is formed has nothing of inertness and gravity (EAK, I, 639; II, 311). But he seems to object to calling the soul non-spatial and non-extended; for he says:

“If, therefore, we deprive the soul of every predicate that belongs to material things, as of extension, figure, space, magnitude and motion, we deprive the mind of everything to which, as to an anchor, it can attach its ideas; the consequence is, that every one is left in doubt whether, after all, the soul be anything distinct from an *ens rationis*” (EAK, II, 216).

39. The difficulty may be only one of definition, for he says: “When I have shown what matter is, what form is, what extension is, and what a fluid is, we shall confess that the controversy is about significance of terms . . .” (EAK, II, 311a). But no! for a few pages (49) later he says: “As it [the spirituous fluid] must be considered almost apart from moments of time, so it must also be considered almost apart from degrees in motion and space; or that time and space, distance, and obstacle, are only to be predicated of it analogically or transcendently” (EAK, II, 352).

XII. *The Paradox in the Fiber*

40. Sometime before Swedenborg wrote the *Fiber* (1741–2) he was accused of being a materialist. The time of this accusation can be approximated because in the *Diary* (3482–4) he says that it occurred at the same time that he was given a knowledge of forms, which were first described in the *Fiber*.

41. Judging from the statements in the *Diary*, Swedenborg must have been accused of the falsity of Moore and Barrow, i.e., “If extension endowed with inertia is matter . . . then extension not endowed with inertia is Spirit . . . and God.” While this hollow concept of spirit could never appeal to Swedenborg, nevertheless it was difficult to show the difference between this concept, which was little more than the empty space of Newton, and Swedenborg’s true concept of the Infinite—an immense, all-pervading substance which has in an infinite degree all the positive qualities found in both worlds.

42. Swedenborg admits that there is a difficulty:

“If (the qualities of the celestial form, i.e., First Aura) are expressed, they appear as paradoxes, to wit: That this form or substance is simple, and relatively to all natural forms and substances, a unit void of figure, extension, magnitude, gravity, and levity, and therefore, not material. That in it nothing can be said to be above or below, or to be carried to a center or a surface or along a diameter. But one and the same point in fluxion is seen to be set in the center, in the radius, in any periphery whatsoever, and in a thousand (places) simultaneously and successively” (*Fiber*, 226a, p. 190).

43. To meet this infestation, Swedenborg seems to have begun a more serious study of definitions. He quotes Plato, Aristotle, Leibnitz and Wolff—all to show that the “one,” “the simple,” “the monad,” in the words of Wolff, “has no parts, is not extended, is indivisible, is endowed with no figure, is void of size, can fill no space, (and has no intrinsic motion)” (*Fiber* 266a, p. 191).

44. Agreeing with these authorities, he says of the celestial form identified with the first aura of the *Principia*: “I call this form, or if you prefer, this substance, simple, because it is the first natural form; above it is the infinite (as will be seen), and below are compound forms or substances” (*Fiber*, 266a, p. 191).

45. But this does not explain the paradox. A suggestion, later developed in the *Ontology*, is to be found, however, for he says:

“They are called parts when they are endowed with figure and size, but when elevated to a superior nature, they put off the qualities of figure, and are no longer called parts but simple substances or units—as they are called also by philosophers, ancient and modern, otherwise they may also be called individuals” (*Fiber* 274, p. 203).

46. This suggestion, it seems, did not mature at this time because the nature of the simple fiber itself must be examined. Here the paradox, if possible, is even more serious. This fiber is made from the individual substances of the first aura (*Fiber* 266, 266b, 269, 275). It has “an exceedingly minute cavity” within it (*Fiber* 292), with a “fluid running through it” (*Fiber* 293), and it is that from which the whole body is woven (*Fiber* 314, 370).

47. So Swedenborg again admits the difficulty:

“(If the qualities of the simple fiber) should be expressed, they would appear like paradoxes, to wit: That it consists of simple substances, as of so many units or monads, which are void of figure, extension, size, gravity, and levity, and hence are not material” (*Fiber* 279, p. 206).

48. Since the simple fiber and the soul are made from the same substance or form, i.e., the first aura, something very similar must be said of the soul.

“. . . this form, (i.e. the soul) as to nature, is celestial, and as to life, is spiritual, simple, void of part, size, extense, figure, motion, gravity, and levity, not corporeal nor material” (*Fiber* 289, p. 211).

49. But to accept this without explanation would be to reject most if not all of his philosophic studies, so Swedenborg immediately adds:

“But because there is no form without determination (i.e. composition), and because no determination can be conceived of without fluxion, and no fluxion without the idea of part, extense, figure, motion and matter, therefore these several properties are to be represented as though they belonged to it—but by analogy or eminence, because it is not nothing but something which is essentially determined in it, whence is its form” (*Fiber* 290, p. 211).

50. How an analogy of part, extense and motion can solve the

paradox of the *Fiber* is not explained, for without a trace of tridimensionality in the first aura, the formation of the human organic cannot be understood. The *Fiber*, nevertheless, leaves the problem here; and this is not surprising, since the paradox was remembered even in the *Diary* some seven years later.

XIII. *The Rational Psychology and the Concept of Space*

51. The *Rational Psychology* passes by the inadequate "analogy" explanation of the paradox, and returns to the place concept of the *Principia*. The second criterion for the determination of space, "upward and downward," half forgotten since the *Infinite*, is used for the first time to explain the paradox of the Soul.

52. "[The Soul] is immaterial, devoid of extension, motion, and part. . . . Yet these forms possess something analogous thereto; for in the absence of an idea of something analogous, there can be no escape from the idea of nothing. . . . It was said above (531) that the form of the soul is a spiritual form; that in the spiritual form those things are infinite which in inferior forms are finite; and (consequently) every idea of place, that is, of center and surface, of upward and downward, hence of motion and extension, passes away, that is, is abolished" (*Rat. Psy.* 498).

53. Souls live in the purest aura called celestial (*ibid.*, 522, 532; i.e., the first aura, *Fiber* 266); therefore the non-spatial nature of this higher world must also be explained. So the analogies are forgotten and the second criterion is employed.

"Space, place, time, degrees, moments, all belong to inferior nature, not to supreme. There (in inferior nature), place is place only relatively to inferior entities, among which is an upward and a downward, a rightward and a leftward, a center, a surface, a diameter" (*Rat. Psy.* 516).

54. This is no capitulation to the Cartesian formula but a return to the *Principia*. For the *Psychology* refers back to the *Fiber* (nos. 16, 18), to the *Economy*, no. 20, and thence to the *Principia*. Also, the soul in the *Rational Psychology*, although called a spiritual form in many places (nos. 127, 137, 431, 486, 516), is still a substance or an essence (no. 512), and consists of myriads of very minute forms above the celestial (502), out of which is formed the

“pure cortical substance” or “intellectory” (294, 473) and “at last” the corporeal organs (487).

55. The paradox is solved in part. Substances having no “upward and downward,” i.e. no orientation in the material world, are not to be called spatial.

XIV. *The Solution in the Ontology*

56. The *Ontology* offers a full solution of the paradox. This little work explains why the higher forms have neither parts nor extension, neither figure nor space, and yet why they are forms which we today would call extended, figured and spatial. This is accomplished by a careful application of the relational concept of space.

57. There are two kinds of extension, the one material, the other substantial. This must be true because all things, if not imaginary, are extended.

“Extension cannot be denied to superior forms as long as . . . the form is actual and not ideal. . . . To say that such a form is void of extent would be saying that it is non-existent” (*Ontology* 55).

58. The common opinion, due to Wolff, is that an extense is that which has parts outside of parts. But this is too limited, for there is one kind of extense, in which its substances cannot be said to be outside other substances, due to their position and motion. Such substances should not be called parts:

“for parts, if they are contained within their own boundaries, are figured, elementary, heavy, inert, terrestrial forms. Therefore in an extent not material, there are no such parts. But there are either substances or forms, or if you would so express it, things which are determined. These things, forms or substances have no figure, or gravity, or they have no material predicate” (*ibid.*, 55).

59. Such an extense is called a substantial extense to distinguish it from a material extense (*ibid.*, 57).

“Every (superior) form therefore is extended, even the supreme and the spiritual” (*ibid.*, 56).

60. The word “figure” should not be used with these forms because “figure” refers to a flat surface, a silhouette; while “form” refers to something with three dimensions.

"Figure differs from form as in geometry a plane differs from a cube" (*ibid.*, 15).

61. These higher forms or substances are not spatial because they have no "upward or downward" (*ibid.*, 58, 55; also see no. 27 above). Consider a circle, not a structure made of angular parts but a form "purely circular or spiral" (*ibid.*, 60).

"That which is outside must be either above or below or at the sides; and there it must be given a position towards the center or towards the surface, or somewhere. When in a form such a relation has perished, as in a circle, who can say that one point of a circle is above or below any other. So it is with every superior form" (*ibid.*, 55).

62. The superior forms, as described in the *Fiber*, become more and more infinite by putting on more and more circles. "Thus superior forms always recede from the idea of space and figure the more highly they are elevated" (*Ontology* 16). It must thus be seen that these forms described in the *Fiber* become less and less spatial as they ascend from the angular to the spiritual and form a scale of spaces.

63. Modern terminology would call these higher forms extended and spatial. Swedenborg says they are a substantial extense, that they have an analogy of space (*Ontology* 56), and that they are bounded by "imaginary space" (*ibid.*, 16).

XV. *Changed Allocations in the Five Senses*

64. The *Five Senses* has for its chief interest a new alignment for the forms described in the *Fiber*. This is because the spiritual form must be assigned to the first aura of the *Principia* in place of the celestial form given it in the *Fiber*. The first aura must be the spiritual form, since it has been recognized as the substance of human souls. Human souls have been called "spiritual" almost from the beginning: Once in the *Infinite* (Chapt. II, no. XII, 5, p. 226); at least once in the *Economy* (II—269—270) and in the *Fiber* (289); and five times or more in the *Rational Psychology* (see no. 54 above). Therefore the first aura must be the spiritual form itself.

65. This reallocation is initiated by "the admonition . . . to refer to my philosophical principles and to consider the levity, the

gravity, and the activity inscribed on the form (that I might) fly wherever I wish" (*Five Senses*, no. 262). Following this, within a few lines, is the well-known passage which lists three natural atmospheres and a fourth which is supreme, that is, spiritual (*ibid.*, 264).

66. A question has been raised about the Price translation, that in one place the genders are not properly considered. If these genders are properly translated and the words are inserted which the genders indicate this passage reads:

"We will never be admitted into a knowledge of things unless we consider that there are as many prior atmospheres in order as there are sensations. Therefore there are three natural atmospheres to which is to be added a supreme atmosphere (*suprema*). 1. Namely, the air. 2. The ether. 3. The celestial atmosphere. 4. Then the spiritual universe (*universum spirituale*) which is supreme" (*ibid.*, 264).

67. Number 4, the "spiritual universe," can be nothing other than the "supreme atmosphere," to be added to the three natural atmospheres, although it has been interpreted otherwise. There is nothing else for it to be in this short sentence following the latin word *scilicet*. Nor is there any reason why the first or universal aura of the *Principia* should not here be called the universe since it has been called this at least twice before—once in the *Economy*, "let us regard it . . . as the universe itself" (EAK 312), and once in the *Fiber*, "into this form (the celestial or first aura) flows the universe called heaven" (*Fiber* 266a). Further, there is every reason why this "universe" should be called spiritual because the soul, built from the first aura, has been called spiritual from the time of the *Infinite* to the *Five Senses*.

68. This interpretation is strengthened on the following page. After mentioning the doctrines of forms, order, series, and influx, the text says:

"These things have been taught in my philosophical principles, where the forms of the parts of each atmosphere have been treated of and delineated. . . . I pass over the delineations for they are extant" (*Five Senses* 267).

69. In the "application" which follows, the entities of the *Principia* are correlated with the forms of the *Fiber*; and the first aura

is placed in the position of the "spiritual forms" (not the "celestial" as in the *Fiber*), by the simple device of adding "water" as an extra entity in the position of the circular form. The effect of this is to push all forms above the "circular" up one step and to place the first aura in the position of the "spiritual form." This is shown in the accompanying chart.

70. This rearrangement of the correlation between the *Principia* entities and the series of forms seems to have removed the last trace of the paradoxes. After this, Swedenborg speaks more confidently of the "spiritual nature of the soul," of the soul as a "spiritual essence" (*Five Senses*, 457) or a "spiritual entity" (*ibid.*, 595), of its life "in the spiritual world" (*ibid.*, 605²¹). But the structural relations of an earlier day are still in force. This "spiritual essence" is found within the fibers and the "beginnings of the fibers," where it emulates "the auras" (*ibid.*, 261-2); the only difference being that the parts of the atmospheres are free, while the parts of the animal kingdom are bound, and that the soul is alive (*ibid.*, 590; see also 565).

71. And now that these difficulties have been removed, the old formulas can be repeated without qualifications. "(These higher forms) are as it were without time and space. Terms which can be applied to inferior forms cannot be applied to them (the higher forms) except by analogy and eminence" (*ibid.*, 472).

Conclusion

72. The philosophic works begin with the relational view of space. As a consequence of this, the natural point is pronounced non-extended because it does not have parts, and non-spatial because it cannot be a relation of parts. It, however, has an analogue of extense and an analogue of space because the different positions of the flowing motion within it are analogous to parts. Nevertheless, the natural point has a trace of tridimensionality similar to that in the Point of Zeno.

73. Two criteria are established for the determination of space. The first is enclosure; only those finites which enclose something else are spatial; they are the passives in the envelopes; those finites which cannot enclose anything, the actives, are not spatial. The second criterion is "upward and downward," now called orienta-

tion. Only those entities oriented with respect to the earth are spatial, the higher entities are not so oriented and are not spatial.

74. The soul consists of the first actives. Since they can enclose nothing and have neither upward nor downward, they are non-spatial and hence spiritual.

75. The later works identify the soul with the spirituous fluid made from the first aura. Since the soul is non-spatial and spiritual, the first aura must be likewise non-spatial and spiritual. But Swedenborg is unwilling to remove all idea of extense from the soul for this leads to atheism. At this time he is accused of materialism and as a consequence of this the soul appears to him as a paradox. He is bothered by this for several years although the concepts necessary to understand this paradox are already extant.

76. He finally explains the paradox by discovering that there are two kinds of extenses. The one commonly recognized is a material extense composed of heavy inert parts oriented to the earth. The one newly discovered consists of substances of a higher order, neither heavy and inert nor having "upward or downward"; it is to be called a substantial extense.

77. All things to be real and not imaginary must be extended. So the soul is a substantial extense; it is not a material but a spiritual substance.

78. Commenting in the *Diary* (3482) on this infestation which seems to have involved the Infinite more than the soul, Swedenborg says that he was held in the fantasy, even though he remembered what he previously thought, and that he was delivered from the infestation by the thought that "Infinite space outside the universe is not space because it is without a boundary."

REALLOCATIONS IN THE FIVE SENSES

	The Principia	The Fiber	Ref.	The Five Senses No. 268	Five Senses No. 264
1	(Salts)	<i>The Angular Form</i> Earths, cubes and trigons	261	1. The First, <i>the Angular</i> the entities of the earth	
2	Water			2. The Second, <i>the Circular</i> fluids or water	
3	Air	<i>The Circular Form</i> the air	263iii	3. The Third, <i>the Spiral</i> the air	The (First) Natural Atmosphere, the air
4	The Ether	<i>The Spiral Form</i> the ether	264c	4. The Fourth, <i>the Vortical</i> the ether	The (Second) Natural Atmosphere, the ether
5	The Second Aura	<i>The Vortical Form</i> The superior ether The magnetic forces	265 265b	5. The Fifth, <i>the Celestial</i> the whole universe and nature where the principles of the rest lie hidden	The (Third) Natural Atmosphere The Celestial Atmosphere 263
6	The First Aura	<i>The Celestial Form</i> The supreme natural form The Universe called heaven Solar and Stellar Vortices	269 266b 266b	6. The Sixth, <i>The Spiritual</i> by which the Universe is ruled by which supreme principles are endowed	The Supreme (Fourth) atmosphere to be added The Spiritual Universe
7	Second Finite First Finite Point	<i>The Spiritual Form</i> Properly called spiritual above all created nature The "Divine Spirit" of others	267	(probably included in the Spirit- ual)	
8	The Infinite	<i>The Divine Form Itself</i> not properly a form Life, Intelligence, Wisdom	268	7. <i>Occurs The Mere Infinite</i> not a form but the beginning of all forms from which flows spiritual form and essence	