*Emanuel Swedenborg: Psychologist*(1). By HUBERT J. NORMAN, M.B., Senior Assistant Medical Officer, Camberwell House.

IF there is one fact which stands out more plainly than any other when one considers the life and work of Emanuel Swedenborg it is this—that whatever value may be attached to the writings of the later or visionary period of his life, there is no doubt they have served to obscure his eminence as a clear-sighted scientific investigator during the earlier part of his existence. That this is so can hardly be denied even by the most enthusiastic Swedenborgian, for if the average person be asked what associations the name of Swedenborg conjures up, he will at once reply that he was a man who saw visions and dreamed dreams, who said that he saw the heavens opened unto him, and who wrote an account of the same in a work entitled *Heaven and Hell*. A further effort of association will perchance link his name with those of Jacob Boehme, of St. Theresa, of Mahomet, and of others who have exhibited similar symptoms; but, except in rare instances, any conception of his scientific attainments even in the most meagre degree is almost non-existent. He is passed over practically without comment by most of the historians of philosophy or of psychology; and his fate has for the most part been to suffer from the uncritical eulogies of enthusiastic disciples, or from the criticism of those whose knowledge of him is limited to the later period of his life with which his mystical writings are associated. In both cases he has suffered—and the term is used advisedly even in the first instance—because scientific men have been repelled from studying one whom they have conceived as immersed in the business of describing visions of the hereafter and consequently as hardly being likely to have given much time to the concrete realities with which science should deal. Most of the discussions as to Swedenborg's place in the history of thought have centred round the later period of his life; and the mental trouble which came upon him in the midst of his scientific activities and altered the whole course of his intellectual career, sore affliction as it was during his lifetime, has not yet ceased to cling to his name, and to militate against his recognition as one of the clearest thinkers of his

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time, or indeed of any time. Rational psychology owes a great debt to him; like many debts it has remained long unpaid. This, too, whilst many an inferior thinker has had his wares cried in the market-place, making of real obscurity an appearance of profoundity. It is not proposed herein to deal with Swedenborg in a more comprehensive way than as a psychologist; to do more would necessitate such an acquaintance with science and with technology as but few possess. For it was Swedenborg who "introduced the calculus into Sweden. . . . He began the science of crystallography. He reasoned out before Franklin the identity of lightning and electricity. He anticipated Laplace in the discovery that planets and planetary motion are derived from the sun. He discovered the animation of the brain. The law of the conservation of energy seems to have been anticipated in his doctrine of action and reaction equal and necessary to life." So says a writer in a recent authoritative work (1); and even if the claims be debatable, it is obvious than any discussion of them would but serve to obscure our more immediate purpose, which is to deal with Swedenborg as an exponent of psychology.

Swedenborg was born at Stockholm in 1688, that is, only sixty-two years after the death of the author of the *Novum Organum*, Francis Bacon, the father of rational philosophy and the great exponent of the inductive method of reasoning. René Descartes, chief of the philosophic doubters, had been dead thirty-eight years, and his system of philosophy doubtless still agitated academic circles in Sweden; for, indeed, Descartes succumbed to pneumonia in the very town in which Swedenborg was born. Mention has been made of these two eminent philosophers, for, as will be seen in the sequel, Swedenborg's system appears as a curious blending of the two methods; and, it is almost needless to add, in so far as he departs from the Baconian induction and assimilates the Cartesian theory of occasional causes, so does he become metaphysical and irrational. There was no need for Swedenborg to follow in the footsteps of Descartes, nor, indeed, of any of the philosophers, except it were to glean from them the facts which they had accumulated in support of their theories; the theories themselves were more often than not mere stumbling-blocks on the road of clear thinking, at least in so far as psychology was concerned. The patient spirit of research has characterised but

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too few of the votaries of learning; and even those who have practised this method have, only too frequently, discarded it and lost themselves in the dismal swamp of inferences. And inference might well be called the blight of philosophy, if not, indeed, of theology as well. In the youth of the human race some primitive man, troubled by the effects of an unduly heavy meal, has strange sensations of discomfort; for these his simple mind can suggest no obvious mechanical cause; an evil spirit has given rise to them; successive generations accept blindly the authority of their ancestors, adding further unpleasant attributes as time passes until eventually the conception of a full-blown devil with his attendant imps is reached. This is a crude illustration of the process of thought which takes place, but further elaboration could not make the case more clear. Eventually the demons, gods, spirits and souls are gratuitously taken for granted, and everything is made to square with the inferences of the more primitive minds. Systems of philosophy and of theology result, which are less stable in their foundation than the pyramid balanced on its apex, and which are as easily toppled over when a rational impulse is directed against them. Swedenborg, who is looked upon as a pure mystic, saw this as clearly as anyone: "When the human mind could advance no further," he said, "it admired its last result and accordingly took it for God; seeking its god from the ground of mere admiration at the point where reason ceases and thought itself is forced to stop "(2). Nevertheless, he himself was constrained by the voice of authority, and, not taking to account his own wise words, he set about the task of tracking a nebulous soul to its resting-place in the human economy, or as he called it, the "animal" economy. That he did not attain this is hardly to be wondered at, for, as he concluded, the soul is an elusive subject. "Upon making the attempt," he says, "I found myself as far from my object as ever, for no sooner did I seem to have mastered the subject than I found it again eluding my grasp." How he could ever have expected to have arrived at such knowledge it is difficult to conceive, for he states in his prologue to the *Animal Kingdom* that "the soul is immaterial"! However, though he held to the theory which had led to the vapourings of the metaphysicians, he yet proceeded in his search in a manner that might serve as a model to the most precise exponent of the Baconian method. It was,

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indeed, amazing that Swedenborg, who was Assessor of Mines in Sweden, and who had for years devoted himself to writing on subjects bearing upon his technical work, should, when he had reached the age of forty-five, have embarked upon such an ambitious search as he then did. Previously he had written on such matters as algebra, *Attempts to find the Longitude of Places by Lunar Observations*, on a *Decimal System of Weights and Measures*, his *Philosophical and Mineral Works* (on mining, on iron, on copper, and brass, etc.), and his *Principia*, which "aims to establish a true theory of vortices, founded upon a true system of corpuscular philosophy" (Clissold). There is little scope for the visionary in treating of such matters, nor, indeed, in the subjects to which he now turned his attention—the human body, its constituent parts and their functions. "I intend to examine," he says, "physically and philosophically, the whole anatomy of the body; of all its viscera, abdominal and thoracic; of the genital members of both sexes; and of the organs of the five senses. Likewise, the anatomy of all parts of the cerebrum, cerebellum, medulla oblongata, and spinal marrow. Afterwards, the cortical substance of the two brains and their medullary fibre; also the nervous fibre of the body and the muscular fibre, and the causes of the forces and motion of the whole organism: diseases, moreover, those of the head particularly. . . . Rational psychology itself, which will comprise the subjects of action, of external and internal sense, of imagination and memory, also of the affections of the animus; of the intellect, that is to say, of thought and will, and of the affections of the rational mind; also of instinct." Truly an ambitious scheme and likewise a novel one, so that he might well say, "In order to follow up the investigation and to solve the difficulty I have chosen to approach by the analytic way, and I think I am the first who has taken this course professedly." He undertook this work in no dilettante spirit, but laboured strenuously to acquire all the possible information on the subjects of which he treated. "He made himself intimately acquainted with the works of the best anatomists of his own and preceding ages, and transcribed from their pages the descriptions suited to his purpose, forming what was in fact a manuscript encyclopædia for his own use. He made a notebook also of the technical terms of the sciences. He informs us that he made use of the dissecting room"(3). He also travelled

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widely throughout Europe and studied at the various places where opportunity offered; "probably wherever in his travels there was an anatomical school he found means of entrance"(4). In his work on *The Brain* alone he quotes, among others, Vesalius, Willis, Bartholin, Vieussens, Malpighi, Nuck, Littré, Eustachius, Valsalva, Morgagni, Lancisi, Boerhaave, Swammerdam, Pacchioni, Steno, and Leeuwenhoek; and commenting on them he says in a prophetic strain which time has amply fulfilled, "The discoveries of these men, far from consisting of fallacious, vague and empty speculations, will for ever continue to be of practical use to posterity" (5). Such was the method of Swedenborg, and yet George Henry Lewes says, "The idea of connecting psychology with biology had not yet been distinctly conceived. Although the brain was universally held to be the "organ" of the mind, the mind was, by the strangest of oversights, not regarded as the function of that organ; consequently no one thought of connecting the study of the mind with the study of the nervous system; no one thought of a physiological basis as indispensable to psychological science . . . The first step may be said to have been taken by Hartley" (6). But Hartley did not publish his *Observations on Man* until 1748, though it is true that he commenced this work eighteen years previously; whilst by the year 1745 Swedenborg had completed and published his various works on anatomy, physiology and psychology. Alcmaeon, a follower of Pythagoras and an anatomist and physiologist, had, however, taught "that the brain was the sole seat of the mind and the source of feeling and movement, and that at the brain arrived all sensation by means of nerves . . . he was led to do this by noting that severing the optic nerves leading from the eyes to the brain produced total blindness" (7). That was some 500 years before the Christian era, and this, like most rational teaching, had been swamped in the deluge of error of subsequent centuries. In modern times, however, Swedenborg was certainly one of the first definitely to trace the passage of the nervous stimulus through nerve-fibres to the brain. "The nerve fibres, by a kind of modification or tremulation . . . carry sensations up to their origins or to the cortical substances" (*Animal Kingdom*); and in the same place he says, "The origin of every sensation is from an external touch or impulse." The influence of Hobbes is easily to be

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detected in Swedenborg's assertions in regard to sensation, and in what may be called his psychological period he is distinctly to be ranked with the sensationalists. Says Hobbes, "There is no conception in a man's mind which hath not first, totally or by parts, been begotten upon the organs of sense (*Leviathan*, Chap. I); and Swedenborg, in the *Animal Kingdom*, "The mind absorbs through the senses all the materials on which it reasons"; "there is, indeed, no other way of knowing and of understanding given us than by the sensations or by experience" (*Soul*).

The *tabula rasa* of Locke is explicitly stated, too, in the following passage: "We are born in complete ignorance, and in process of time our senses are opened; through them impressions are received and sublimated into ideas, which by reason are methodised into doctrines"; and along with this he makes a striking statement in regard to the methods of reasoning which is worthy of note: "Synthesis is nothing but a poor, precocious and vague analysis: it gives out no more than has crept into the intellect by the senses, and to a fragment of experience, frequently distorted, would subdue universal experience. Whence come opinions, hypotheses, theories, systems? These monstrous hypotheses are born, have their day of glory, grow old, die, and are forgotten, but from their ashes broods of new ones spring, which walk as spectres through the earth, and, like enchantresses, distract the human mind perennially. Hence errors, mental darkness, strife, scholastic contentions over straws, and the flight and exile of truths" (*Animal Kingdom*). Never, surely, has there been a more sweeping condemnation of hasty generalisation, nor a more penetrating view of the true nature of deduction as the child of induction. "Our sensations," he says in another place (*Soul*, Sec. 31), "are perfected first, then the internal perceptions, and finally, the intellect; the judgment . . . does not come until late, and in adult life; and because this way is natural and alone permitted, we have to depend upon our observing and collecting of experiments and phenomena of nature. . . . The very truths, causes, and principles of natural things, yea, even of moral things must be learned in the same way." He realised, however, the limitation of our powers of apprehending by the unaided senses what is necessary for a true understanding of phenomena: "The external senses are very obtuse, gross, and



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feeble, and thence fallacious, so that they deceive the internal senses themselves in innumerable phenomena taken for truths and appearing to be truths. . . . We may conclude that even these parts, which are the ultimate objects of microscopic vision, also embrace in themselves innumerable smaller parts, even a whole system, so that nature in the least parts still lies hidden far beyond our optical experience" (*Soul*, Sect. 31 and 72). He had definite ideas as to how these sensations passed to the brain, and that it was there that they became transmuted. "The cortical glandule is the last boundary where sensations terminate, and the first prison-house whence the actions break forth; for the fibres, both sensory and motor, begin and end in these glandules" (*Soul*, Sec. 23). There is here also a statement of the difference of the functions of nerves which is of considerable interest; but he had also ideas of localisation of function in the brain itself. "Where the cortical substances are most delicate and most expanded, there the sensations should be more perfect and distinct; for that the cerebrum feels, perceives, and understands, but not the cerebellum, is because the cortical glandules, like so many little sensories, are in a state of perceiving modes distinctly. . . . Thus sensation belongs, indeed, to every cortical glandule, but it is more perfect in one part of the brain than in another" (*Soul*, Sec. 19). He demarcates the anterior province or frontal area of the brain as the seat of intellect: "If this portion of the cerebrum is wounded then the internal senses—imagination, memory, thought—suffer; the very will is weakened, and the power of determination is blunted. This is not the case if the injury is in the back part of the cerebrum" (*Brain*, Sec. 88). It will be observed from this that he draws his arguments on behalf of the theory that in the layers of the cerebral cortex take place the various mental processes, not only from physiology but also from pathology; and he says elsewhere (*Soul*, Sec. 117): "Every imagination at once ceases as soon as the cortical glands are deprived of the faculty of undergoing their mutations; as when they grow cold and are relaxed as in certain diseases, in catalepsy, in morsus tarantulæ, in Vitus' dance, and in loss of memory. The glands are deprived of this faculty when the blood is obstructed, either by the relaxing of the vessels or by something that hinders its return to the veins

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and sinuses"; and (Sec. 25) "that the will is such as is the intellect or the perception appears from the phenomena or the affections of the mind, of the animus, or of the brain. For the will increases with perception itself in youths and in adults. When one perishes the other perishes, for they meet in the same organ. When the brain is injured, compressed with foreign matter, or disturbed in its order, not only does sensation become unsteady according to the degree of injury, but also action, as in loss of memory, in catalepsy, in lethargy, in sleep, and other conditions. The reason is that nothing can be carried into the will which does not come from the perception; for the will is the conclusion of the thoughts, and to it belongs the power of acting in accordance with the ideas of the thoughts."

In regard to the exact nature of the impulse which passes along the nerves, and which has not even yet been adequately explained, Swedenborg refers (*Economy*, No. 472) to the "permeability" of the fibres, and speaks of a "spirituous fluid" which passes along them; he compares the nerve-cell to a minute heart, and says that "the nervous fibre, regarded in its simplicity, cannot be better compared with anything than with the artery; for the artery of the brain is continued into the medullary fibre through the medium of the cortical or cineritious spherule, so that it may without doubt be concluded that the fibre is an artery or an artery in a superior degree." That is, some refined substance passes from the artery into the nerve-fibre by way of the nerve-cell: and as there is pulsation in the artery, so there is "tremulation" in the fibre—"This is done perfectly by virtue of the spiritual essence which is in the fibre" (*Animal Kingdom*, pt. iv). It is interesting to note that a similar analogy between artery and nerve-fibre is made use of by Herbert Spencer: "Though unlike the pulses of the blood in many respects, these pulses of molecular motion [in nerves] are like them in being perpetually generated and diffused throughout the body; and they are also like them in this, that the centripetal waves are comparatively feeble, while the centrifugal waves are comparatively strong, to which analogies must be added the no less striking one, that the performance of its office by every part of the body, down even to the smallest, just as much depends on the local gushes of nervous energy as it depends on the local gushes of blood" (8).

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Swedenborg was led to his conclusions in this connection by his observations as to the origin of the cells of the cerebral cortex. "The cortical glandules hang down and sprout forth from the sides and coatings of the producing and generating arteries" (*Brain*, No. 329). This, again, may be paralleled in the writings of a modern researcher in this subject, Dr. Bevan Lewis: "The nerve-cells are seen . . . to follow definitely the course of the blood-vessels, and often surround the latter in crowds, and assume with the direction of the vessel a linear or arched course. . . . Such appearances would seem to indicate that the nerve-cells of the cerebral cortex are lymphatic outgrowths" (9). Swedenborg recurs to his idea of "tremulation" in the following passage, where also another modern theory, the protrusion of the dendrites, seems to be outlined; in discussing the senses he remarks: "The images themselves of the sight are elevated along the fibres of the optic nerve, even to all the cortical glands of the brain. Reaching them, they run through them with the greatest rapidity, pervading even their whole fibrous and vascular structure by a kind of most subtle trembling, so that the whole gland is rendered conscious of the image and phenomenon of sight. . . . The gland undergoes a change of state which very nearly corresponds to the inflowing image or object, for it either contracts or expands, or assumes a more perfect form, or distorts itself into one more imperfect, since the entering of what is harmonious exhilarates and expands the sensory, while anything that induces discords binds and distorts" (*Soul*, Sec. 97).

Swedenborg, having discussed the nature of the incoming impulse, and having decided that "external sensations reach no goal beyond the cortical spherules, since these are the beginning of the nervous and medullary fibres," decided that "it is the cortical substance collectively that constitutes the internal organism, corresponding to the external organism of the five senses"; "this cortical substance," he says, "is the unit of the whole brain; in this unit or substance then we ought to find that superior power of which we are in quest. Therefore in this, and not in any ulterior unit, because the cortical substance is the ultimate unit of the brain, we ought to find the soul's faculty of understanding, thinking, judging, willing" (*Economy*, 191 and 304). And, again, he reiterates,

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"We have first to learn what sight properly is, and what is perception, imagination, memory, image, idea, as also what their differences are. At the outset it is to be observed that these all are effected in one organ or sensory, that is, in the cortical substance of the brain" (*Soul*, Sec. 100). He proceeds to describe how he conceives the sensations to be recorded: "Memory is all that which is produced by the imagination [or the formation of mental images], or it is the mutability of state itself. For the sensory itself possesses by nature nothing but a potency of changing its state; but that it assumes various states is the result of sensations which constrain the sensory, and by a kind of force bring it into these changes. The particular mutation thus acquired remains, and its quality is known by the images impressed. Hence a particular mutation which exists in potency is a part of the memory, while a particular mutation which is in act is a part of the imagination. Therefore, the ideas of the memory are the same as the ideas of the imagination, but they are not reproduced except by an actual mutation; hence the imagination may in a certain sense be called the active memory." He continues, in a passage which might almost be a modern description of the process of "canalisation," "These changes of state are to be acquired by use, culture, custom, in the flowing-in of sensations. Thus the sensory itself becomes accustomed, and learns in time to undergo many changes of state, and thus to enrich its memory. Every mutation, once acquired, remains under the name of memory, and continues present whenever the sensory returns to that same mutation" (*Soul*, Secs. 106–107). He realised also that there is a greater tendency for similar sensations to impress themselves on the brain than dissimilar ones; or that attention is more ready where interest is powerful than where it is feeble: "Into the imagination enter only those things which are similar and in agreement, and these are all particular ideas; from these arise a compound idea which again is, as it were, the part of an idea still to be composed" (*Soul*, Sec. 103).

He passes on in his inductive search to still higher regions of mental activity, or, as we may express it, to describe the more complicated reactions which are usually denominated as intellect, will, judgment, and so on; and, as will be shown presently, he, like others who have attempted to grasp abstractions and use them as explicatives of facts, anon passes into

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that hazy-atmosphered region where amidst gods, demons, elves, gnomes, basilisks, sea-bishops, and the like, dwells the variously imagined soul. "Intellection, which is the ultimate of sensations, does not immediately turn itself into will, which is the primary of actions, but a certain thought and judgment intervenes; thus there are intermediate operations of the mind which connect the last of the one with the first of the other. There is a certain progressive series . . . as intellection passes over into will. Undoubtedly there intervenes the thought which is the last involution of things perceived and understood, and the calling forth of like things from the recess of the memory. But the judging or judgment is the reduction of the things thought into a certain rational form, those things being cast out which have nothing to do with the matter in question; at length comes the conclusion and so the will. The intellection is the first part of the operations of the intellect, the thought is the second part, judging is the third, conclusion is the fourth. All these taken together are designated by the one word 'intellect.' But this gyre is often accomplished with such presence of mind and velocity that it hardly appears that there are so many intermediate parts between the first rational perception and the beginnings of action." (*Soul*, Sec. 24). It might well be added as a commentary on this that it has been a too keen desire to distinguish these "intermediate parts" that has introduced so many difficulties into the study of psychology. The brain process has been divided up by every exponent according to his particular conception, each division has been designated by some high-sounding term, and a welter of confusion has resulted. Much so-called psychology—and most metaphysics—is merely a dispute about words, and we have not yet apparently learnt the lesson which the errors of Aristotelian logomachy should have taught. It is the more amazing that Swedenborg, who had so clear a conception of the unity of brain-action, and indeed of body-action, should have failed to notice so great a danger. "We will also contemplate," he says, "the structure of the human body, and show therefrom that there is nothing throughout it but is necessary to the parts and the whole, or but is of use to the subsistence of the whole: likewise that all things therein conspire to a common end" (10). Apparently he lost sight of a fact, which many others who proclaim it

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loudly also do—nature does not proceed by leaps and bounds, but that events which are apparently successive are really continuous, that the end is in the cause and is merely a continuation of it. It seems obvious that if this were borne steadily in mind there might be simplification in psychological studies as there has been in other branches of scientific investigation.

It is probable, however, that Swedenborg felt himself constrained by the great authority of Descartes, who had but recently promulgated his theory of occasional causes, or as Swedenborg terms it, "influx," in the modified form in which he stated it. According to this conception of occasional causes "it was merely by the interference of the Deity that mind and matter were modified in harmony, and that either seemed to influence the other" (11). It is true, of course, that Descartes maintained that, though body and mind were distinct and separate, they met and "combined" (as Mahaffy puts it) "in some inconceivable way in the pineal gland of the human body." Ueberweg (12), commenting on this theory, says, "Descartes considered body and spirit as constituting a dualism of perfectly heterogeneous entities, separated in nature by an absolute and unfilled interval. Hence the interaction between soul and body, as asserted by him, was inconceivable, although supported in his theory by the postulate of Divine assistance. Hence Geulinx, the Cartesian, developed the theory of occasionalism, or the doctrine that on the occasion of each psychical process God effects the corresponding motion in the body, and *vice-versâ*."

Leibnitz, who had also a theory which he expressed in the term "pre-established harmony," and which is similar in many ways to the idea of parallelism, made a caustic comment on the doctrine of the Cartesians: "Occasionalism makes miracles of the most common events, since it represents God as constantly interfering anew with the course of nature." Swedenborg, in his effort to simplify the conception of the process of the intercourse which takes place between the soul and the body, complicates matters by the introduction of a third factor which he terms the rational mind. This rational mind is intermediate between the soul and the animus, and is acted upon by both, or in Swedenborg's words, "is born of both." It is curious to note how he passes, apparently quite unwittingly, from what he has definitely ascertained from his

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anatomical and physiological studies, and, leaving his inductive principles behind him, enters into vague speculations concerning a nebulous "mind"—the bugbear of psychology. This is, perhaps, most clearly demonstrated where he is dealing with the question of sight. "Sensations of sight become images of sight; the images pass over into similar ideas; thus in place of the images of sight are substituted intellectual ideas. . . . On the internal sensory itself are impressed as many ideas (as it were immaterial images, if we may use so crude a term) as there are images of the memory and the imagination which are formed and drawn out by the changes of state of the sensory; these immaterial or rational ideas are perceived in the pure intellect or in that most simple cortex in the same way as the images of sight are perceived in the common or external sensory; consequently the ideas themselves are like so many internal sensations with their differences; the ideas thus understood constitute the mind, but only its intellect or thought. . . . When the mind is said to be life and a principle, it is rationally conceived as being a certain quality flowing from the form of its intellectory when affected; and thus as nothing without its organic substance. But we may not stop here; let us go farther. This intellectory or purest cortical substance of the internal sensory can by no means exist or subsist of itself. This ought to consist of substances still more simple, that is, of the most simple of the realm. These most simple substances are what we call the soul in which there is life, and which is the mind itself of its intellectory, and consequently the life of the mind itself. . . . The rational mind [mens] is intermediate between the mind and the animus and participates of both. . . . For a spiritual mind [anima] flows into it from above, and a natural mind [animus] from below, which is the reason why it is called rational; for that it may be rational it ought to participate in both the natural and the spiritual. Thus the more it communicates with the spiritual mind the more eminently rational or the more and more spiritual the mind becomes; but the more it derives from the animus or natural mind the less rational or more corporeal it is. Accordingly the superior mind and the animus meet, and, conjoined in the internal sensory, they put forth their common progeny" (*Soul*, Sec. 306). And he further says, "The mind is the life of the thoughts, as

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the animus is the life of the sensations." He was of opinion that there was something added to the incoming stimulus before it became a perception, or before it rose into consciousness; "there is in the animus a certain life which is communicated to the perception of sensation . . . without which there would be no sensations." So tardy was he at times of allowing himself to be paid by words or to be put off by dubious phraseology, that his assumption of some immaterial substance, as it has been termed, to complete his scheme of psychological investigation is the more remarkable. That he was capable of close and reasoned exposition the following passage will illustrate: "If we say that the mind is the principle of all the mutations of the animus, we must explain principle, what it is, where it is, of what nature; for principle is a general word like force and cause, which may be said to be in anything. . . . To explore, therefore, what the mind or superior animus is, we must proceed in the same way as above in the exploration concerning the animus, that organic substance itself; or we must seek out that internal sensory where the mind as it were resides. For that the mind is in the brain is beyond the possibility of a doubt; the state of the mind is the state of the brain; they are so far united that wherever the one is injured, languishes and seems about to die, the other is equally so. It is to be borne in mind that the senses of the external organs through the containing fibres flash even to their beginnings or to the cortical glandules, and that in these surely ought to reside that principle which is in the senses. This glandule has been frequently shown above to be the brain in its least effigy, and there is in it a medullary and cortical substance similar and analogous to that which is seen in the common brain; some such little body, therefore, we have called the internal sensory, and we have observed that these little sensories taken together constitute the common sensory; if, accordingly, there is a similar analogous cortical substance in each such little sensory, it follows that that substance taken together is the particular or internal sensory itself, and that its each least cortical part is an intellectory in which we will suppose is the pure intellect" (*Soul*, Sec. 301). It is doubtful if many passages comparable with this can be found in the writings of Swedenborg's contemporaries, and it surely exhibits a marked advance from much of the Cartesian excogitation!

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The doctrine of innate ideas did not escape Swedenborg's observation. It had the authority of Locke and so could not be lightly dismissed. "Locke had but a vague and vacillating conception of the nature of the understanding upon which the senses traced images; or of the processes by which sensation and ideation were effected. He was forced to admit innate faculties, but had no precise conception of what they were, nor of how they operated. . . . Leibnitz himself, though vindicating the necessary co-operation of the mind (the co-operation of subject with object, in Kant's phrase), had no precise conception, and was reduced to mere assumption. Because we are born with certain dispositions, and because thought has certain recognisable conditions, he assumed that we are born with all dispositions, and that all knowledge is simply the awakening of slumbering ideas" (13). Swedenborg, although in his *Economy* he had merely shelved the difficulty by asserting that "There are no innate ideas or imprinted laws in the human mind, but only in the soul," came to the conclusion that because we observe that "the order is natural or inborn, we believe that the ideas themselves are inborn also" (*Soul*, Sec. 112); and also that "there can be no idea of the imagination which is not in the memory, and no idea of the memory which has not been in the sense; hence that all parts of the imagination are insinuated through the senses alone. Consequently that there can be just so much imagination as there is memory, and so much memory as there is experience of the senses" (Sec. 110). He realised, too, that there are differences in the powers of mental development in different individuals; and that the poet has to be made as well as born. "That we are born poets, musicians, architects, mechanics, or whatever else, depends more upon the imagination than the intellect; for there are persons whose little sensories incline and are more easily adapted to these than to those changes of state, and by a natural leading more promptly seize and reproduce one set of ideas than another" (*Soul*, Sec. 121).

Laycock, writing in 1860, laid claim to being the originator of the idea of unconscious mental action or of what is now made so much capital out of by enterprising amateurs in psychological matters under the name of "subconsciousness." Laycock speaks of having "more fully developed that great law of unconscious functional activity of the brain—which he was the

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first to demonstrate" (14). Feuchtersleben, in 1847, describes "obscure ideas, or, more properly, sensations with dormant consciousness . . . which are exceedingly numerous. . . . It is they which are active throughout the whole process of the formation of thought, for this goes on, though we are unconscious of it, and gives us the only perfect results, namely, ideas, notions" (15). But Leibnitz had arrived at the same conclusion, and he illustrates the idea in a striking manner in the following simile: "The mind is like unto an ocean of obscure perceptions from which islands of distinct ideas emerge." Swedenborg, in his practical way, deals thus with this same question: "The cortical glands perceive otherwise than do the medulla spinalis and medulla oblongata, and those of the cerebellum otherwise than those of the cerebrum; the former perceive in a general and obscure manner, but these particularly and distinctly. Hence arises a sense which does not reach the consciousness of our intellectual mind. . . . We are not conscious of any other changes than those which affect the cortex of the brain in particular" (*Soul*, Sec. 38).

It has already been pointed out that Swedenborg had a clear conception that noxious factors acting on the body are apt to lead to disorder of the brain processes which underlie mental changes. This is perhaps worthy of further illustration. "Many diseases," says Swedenborg, "pollute the blood. All things causing disease will therefore cause destruction of the mind, thus bad nutriment, poisons, drink, and every kind of intemperance. . . . The mind depends upon the state of the purer blood . . . . which, if diseased, drives the mind to insanity, even to delirium, but on the blood being restored to health the mind returns to its normal state. . . . Similar things take place in burning fevers, in apoplexy, epileptic fits, paralytic strokes, in catalepsy, tarantismus, loss of memory in catarrhal disorders and other troubles. These are the ordinary bodily causes. There are also extraordinary causes which injure the cerebrum itself and thus the common sensory or the external form of the sensory, as inflicted wounds, water on the brain, inward tumours, and innumerable like things, some of which can be cured and others not. That the reasoning power of the mind, or the human intellect, and likewise the affections undergo at the same time noticeable changes is confirmed by daily experience. From these causes, which diminish or destroy

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the executive faculty of the mind, it can be judged what are the causes which perfect the same faculty, for from an examination of particulars a knowledge of contraries flows. In the meantime this care is most incumbent upon us, that there should be a sound mind in a sound body, or that the body and the animus should only be so indulged that the mind shall always remain sane" (*Soul*, Secs. 427–428).

In the foregoing pages an attempt has been made to depict Swedenborg from a point of view which cannot be called a common one, and, however inadequately, to render justice to him as a psychologist. Only too frequently he has been dismissed from consideration as a mere visionary and a dreamer of inflated dreams; it is hoped that this essay may in some degree help to dispel this illusion. Quotation has largely been made use of in order that the accusation may not be brought that more has been read into the original that it ever contained, and that a gloss of modern knowledge has been imparted to the crude original. "If we wish to shake [a man] in his opinion," says Swedenborg, "we must use reason, and not prayers alone. . . . To convince reason, reason must inevitably be made use of." It is believed that some reasons herein contained will shake the deeply rooted but erroneous opinion that Swedenborg was simply an exponent of mystical lore.

(1) A paper read at the South-Eastern Divisional Meeting, held at Camberwell House on April 23rd, 1912.

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*Brain* and *Soul* refer to Swedenborg's *The Brain considered Anatomically, Physiologically and Philosophically*, and to his *The Soul, or Rational Psychology*.

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