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nite caution—that too much time is spent under the *mere* guidance of the grammar and the dictionary. Our youth sometimes become better verbal critics than theologians. I have no doubt of the learning, the earnestness and the sincerity of our accredited teachers. To suggest vague suspicions is a miserable employment. But if there be any danger, let a most acute observer warn us, who is now in his grave.

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### ARTICLE III.

#### OF SPIRIT AND THE CONSTITUTION OF SPIRITUAL BEINGS.

By George I. Chace, Prof. of Chemistry and Geology, Brown University.

In a former number of this Review, we laid before its readers, what we believed to be the true view of the constitution of matter. We endeavored to show, that in accordance with the principles of sound logic, it must be regarded as having a real existence, as possessing inherent, constitutional properties, and as acting by virtue of those properties. As such a constitution of matter, would at first view, seem to place all physical events under the control of an iron necessity, leaving no room for the influence of prayer or the exercise of that superintending Providence, which according to the teachings of our holy religion, God continually extends over the affairs of this world, it may be well before entering upon the subject of our present Article, to notice briefly, what, were it true, would constitute so serious an objection to the view taken. In doing so, however, we would say at the outset, that we do not propose considering whether it be possible to reconcile this idea of matter with the above Christian doctrines, but whether it presents in connection with those doctrines, any peculiar difficulties which do not equally attach themselves to any other hypothesis capable of explaining the phenomena. Unless this latter question can be answered in the affirmative, the objection, so far as we are concerned, has no weight.

Now we think it is clear that no practical conclusions whatever can be drawn from the supposition, that all the changes of the external world, are brought about by the spontaneous reaction of the elements composing it, which may not, in like manner, be deduced from that established order which we everywhere observe in the succession

of events, which lies at the foundation of all the sciences, and without which we could have no knowledge beyond the sphere of our own immediate consciousness. The continual manifestations of power, which present themselves on every side to our observation, do not occur isolated, but linked to one another so as to form one continuous chain of antecedents and consequents, extending through every part of nature, and binding together all her phenomena,—a chain which no created power can loose, which only a miracle can break. It is obviously the same thing to us, whether this fixed order in the succession of events, these established connections among phenomena, are constantly maintained by the direct and unceasing exertion of the Divine power, or whether they were at once provided for, and ever after secured in the original constitution of matter. In both cases, too, the phenomena are alike caused by God, are equally an unfolding of his conceptions, a fulfilling of his will. It makes no difference as to the question of a Divine providence or of the influence of prayer, whether we suppose God to be each moment evolving the changes of the universe in accordance with a preconceived plan and in subordination to preestablished laws, or whether we suppose Him, in the beginning, to have so framed the constitution of things, as to cause the spontaneous development of these changes, in accordance with the same plan and in subordination to the same laws. On either supposition, the subject presents to our understandings difficulties which can be removed only by admitting in the Divine being, a prescience infinitely beyond our powers of comprehension, enabling Him from the beginning to look down the mighty chain of physical events, through all its ramifications and connections, and thus to foresee the little as well as the great, and to provide for the accomplishment of his special as well as his general purposes.

It may be urged as a further objection to our view of the constitution of matter, that it places the Divine being in a state of inactive repose, leaving Him with nothing more to do, after having finished the work of creation.

Were this so, we reply, it would furnish no valid objection to the doctrine. Our knowledge of the Divine nature, and modes of existence and action, is too imperfect; in forming our ideas of them, we are obliged to reason too exclusively from ourselves, to justify us in drawing any conclusions from this source. The teachings of the Holy Scriptures, so far as they may be conceived to have a bearing upon the question, would seem rather to favor the idea of periods of creative energy and labor, succeeded by others of comparative rest. Such at least is the view presented in the account given by the inspired

historian, of the fitting up of our globe for becoming the abode of living beings, and of the formation of the different tribes of plants and animals designed to occupy it. The same idea is also repeatedly alluded to and recognized in other portions of the sacred writings.

But not to press an inference of this kind, beyond what the acknowledged principles of interpretation may be deemed to warrant, we say further, that a state of inactivity or repose on the part of Deity is by no means implied in the doctrine of the real existence of the universe and the spontaneous evolution of its phenomena. There may be, and doubtless are other modes of exerting the Divine power, beside the creation and endowment of material atoms. Of one of these, indeed, we have abundant evidence in the past history of our own planet. Again and again, as we learn from the teachings of modern geology, have the Divine wisdom and power been interposed in the creation of new forms of animal and vegetable life, adapted in their organization to the new conditions which have arisen, one after another, upon the earth's surface, during the slow progress of its gradual and successive developments. Similar interpositions have also taken place at later periods in its history, subsidiary to that moral and social progression, which it seems to have been the purpose of God to establish upon the earth, after having terminated by the formation of man, the long line of physical advances. What has been the history of our own world, in both of these respects, may be the history of innumerable others. Nay further; creation itself, for aught we know, may be a progressive work. In some far off region of space, beyond the reach of human eye, beyond the utmost bound of telescopic vision, away on the outskirts of the existing creation, new worlds, and systems of worlds, may be continually arising, under the fiat of the same almighty power which spake our own into being. And as space is infinite, the boundaries of the universe may go on constantly enlarging, as long as time shall continue, or until they at length shall have reached the limit proposed for them in the Divine mind. But we cannot pursue these thoughts. Enough has been said, we think, to answer fully the objection considered, and it is time we proceeded to an examination of the subject which we have placed at the head of our Article.

When we enter upon the investigation of matter, we have at our command means for determining its constitution and properties, which do not offer themselves, in the case of spirit. We can see and feel it. We can weigh and measure it. We can alter its form. We can change its place. We can demonstrate its presence, or we can prove its absence. We may cause it to enter into combination, or to under-

go decomposition. We may subject it to all the tests of mechanical and chemical experiment.

The case is widely different, however, when we come to the investigation of spirit. This is invisible and intangible. It does not address any of the senses. It has neither weight nor form nor dimensions. Nor does it possess any properties by which we can determine its locality, from which we can prove its absence or demonstrate its presence, in any given place. We have no power over it. We can effect no changes in it. We cannot collect it. We cannot confine it. We cannot subject it to any form of experiment. We can only take note of its phenomena, as they are revealed to us in our own consciousness, or as we see them indicated by the actions of others. We may collect, compare and classify these phenomena. We may refer them to distinct powers or faculties, in the beings by which they are manifested. But we can derive no information from them, concerning the actual principle or essence from which they are evolved. So entirely is this concealed from us, that we are in danger of overlooking its existence, and of referring the manifestations which we witness, to a mere assemblage of powers and capabilities, without considering that those powers and capabilities must have that in which they reside and to which they belong. Indeed, we are inclined to think that most persons, when they endeavor to form a conception of spirit, leave out altogether the idea of substance, and content themselves with coupling a vague notion of energy and power, with the exclusion of every attribute of materiality. Their idea of it, is made up rather of negations, than of any positive qualities. They suppose it to have no form, no extension, to hold none of those relations to space, which necessarily belong to every form of visible, tangible matter. In addition to this, they conceive it to be essentially active, and to possess the attributes of will, memory and affection, which raise it far above all material analogies.

Now that which possesses these, or any of the other properties or endowments of spirit, as a moment's reflection will convince any one, must have a real, substantial existence; an existence as positive and certain as if it could be seen and felt and handled; as unquestionable as if it could be submitted fully to the examination of the senses, and be made the subject of every form of mechanical and chemical experiment. As respects the certainty of their existence, there is no difference between matter and spirit. So far as this is concerned, they both stand upon precisely the same foundation. The real difference between them, and the only real difference, consists in this, that one is more open to our investigations than the other. Of one we may ac-

quire a knowledge. We may become acquainted with its actual constitution and properties. While of the other we can gain no direct or positive knowledge, but must be content with such ideas concerning it, as may be derived from analogy.

But notwithstanding this difficulty of gaining any satisfactory idea of the nature of spirit and of the constitution of spiritual beings, the subject is one which always has had, and always will have, much interest for men of serious and reflective habits; one which always has occupied and always will occupy, a large place in their thoughts. Most of the ancient philosophers, whether of Italy or Greece, of Egypt or Hindoostan, so far as we are able to learn their opinions from the imperfect records that have come down to us, believed the human soul and also the soul or living principle of each one of the lower animals to be a part of the Deity, detached in some way from the Divine substance, and incorporated with the body which it for the time animated. In this fallen and humbled condition, they supposed it liable to contract habits of vice and sin, and as a necessary consequence, to become subject to punishment. With these psychological opinions, they very generally connected the doctrine of metempsychosis. They supposed the same soul to animate in succession different bodies, sometimes of men and sometimes of animals, descending in the scale of being, in proportion as it became more vicious, or ascending according as it made progress in virtue. When at length, it had passed through the entire cycle of its transmigrations, which was commonly supposed to occupy a period of several thousand years; when by long penance and many lives of virtue, it had finally freed itself from the last taint of vice, they believed the soul to be restored to its original perfection and happiness, and losing its individual existence, to become once more a part of the Divine substance.

This splendid system of myths which prevailed so generally throughout the East, and which subsequently passed, with but slight alterations, into the south of Europe, seems to have extended its influence to nearly all the nations of antiquity. Traces of it are said to have existed among the Celtic tribes of western Europe, as well as among the more rude and barbarous people inhabiting the north of that continent. At a later period, some of its doctrines found their way into the Rabbinical writings, and even mingled themselves with the purer faith of one at least of the Christian sects. It is not a little remarkable, that a mere fiction of the imagination, without the slightest foundation in either reason or analogy, should have continued for so many ages, to stir the strongest hopes and fears of such multitudes of our race.

But while the greater part of the philosophers, poets and sages of antiquity, were led from their exalted ideas of the human soul, to ascribe to it a divine nature and origin, there were some on the contrary, who regarding chiefly the mysterious and intimate relations which it holds to the body, believed it to be material in its essence, and to have sprung from no higher source than the corporeal frame, with which it is so closely connected. Reasoning from the remarkable changes which they observed matter to undergo in becoming a part of the living organization; the new powers and properties which it assumes, differing so widely, in many instances, from those previously possessed by it, this latter class drew the conclusion, that the same elements, aggregated in more complex forms, and united by subtler combinations, might exhibit all the phenomena, usually ascribed to spirit.

“Eadem coelum, mare, terras, flumina, solem,  
 Constituunt; eadem fruges, arbusta, animantia:  
 Verum, aliis alioque modo commixta, moventur.  
 Quin etiam passim nostris in versibus ipsis  
 Multa elementa vides, multis communia verbis;  
 Quom tamen inter se versus, ac verba, necesse est  
 Confiteare, et re, et sonitu distare sonanti:  
 Tantum elementa queunt, permutato ordine solo!  
 At, rerum quae sunt primordia, plura adhibere  
 Possunt, unde queant variae res quaeque creari.”  
*Lucretius, De rerum Natura.*

They denied altogether the existence of spirit, and saw in its sublimest manifestations, only material agencies: “Nihil esse omnino animum, et hoc esse nomen totum inane, frustra que animalia et animantes appellari; neque in homine inesse animum vel animam, nec in bestia; vimque omnem eam qua vel agamus quid vel sentiamus, in omnibus corporibus vivis aequabiliter esse fusam, nec separabilem a corpore esse; quippe quae nulla sit, nec sit quidquam nisi corpus unum et simplex, ita figuratum ut temperatione naturae vigeat et sentiat.” In a word, they believed what was denominated the soul, to be only a certain part of the body, possessing the powers of reason, memory, and feeling, in consequence of its higher and more elaborate organization.

As this view of the constitution of spiritual beings proposes to rest upon a more philosophical basis, and has moreover found its advocates in all ages and among all nations, it may be worth while to consider it for a moment, and see how far it will bear a philosophical examination.

When we compare the known powers of matter with those which

are commonly referred to spirit, what first and principally strikes us is their entire dissimilarity. The former are made known to us through the senses. Their existence is demonstrated by signs which are visible and tangible; and in their last analysis, they are all resolvable into some one of the different forms of attraction and repulsion. The latter reveal themselves only to our consciousness. None of the phenomena to which they give rise address the senses; and upon being analyzed, they are found to consist of certain faculties, such as apprehension, memory and will, so wholly unlike the mere attractive and repulsive forces of matter, that no comparison can properly be instituted between them.

Now we say, it is unphilosophical to refer powers which have no resemblance, which bear no marks of any kind of relationship, to the same essence, unless indeed their connection with it can be demonstrated; and this in the present case, we presume, will not be pretended.

The relation between property and substance, as we understand it, is not an arbitrary one, dependent upon the simple will of Deity. It is a constitutional, and in that sense, necessary relation. The property belongs to the substance, depends upon it, grows out of it, derives its very existence from it. The connection between the two is essential, and therefore incapable of being dissolved. No power can separate them, nor can either undergo any change without a corresponding change in the other. Everything which God has made, is constituted with certain definite and unalterable properties. These properties, are not endowments arbitrarily conferred by an act subsequent to its creation, but are included in and make a part of that creation. They are inherent, and must therefore continue to belong to it; nor can any other properties belong to it until changed in its nature by the same power that originally formed it. From the essential and necessary relation between property and substance, we say then, it is unphilosophical to refer to the same essence, powers so entirely dissimilar, as those which are manifested by matter and by spirit.

But we need not confine ourselves to a mere ontological view of the question. We may look at it in the light of analogy. We may bring to bear upon it, what we have learned of the constitution of things in the world around us, and may see whether this tends to confirm our *a priori* conclusions. If we direct our attention to the ascertained and acknowledged phenomena of matter, we perceive among them a wide diversity of character; and if we trace these phenomena back to the sources from which they respectively spring, we find them to be connected with a large number of different elements or material principles. If we further examine these elements, we discover

in each one of them, a distinct and peculiar nature, distinct and peculiar properties. Each one of them has its own modes of action, and is governed by its own laws. The powers which belong to one, cannot be acquired by another. The phenomena which depend upon one, cannot be exhibited by another. Each has a definite sphere of action, and performs a definite part in carrying forward that sublime progression of physical changes which had its commencement at the beginning of the creation, and will terminate only with its final dissolution.

These elements, it is true, though governed and restricted, as we have said, in all their manifestations, are capable of uniting with one another, and of thus forming new bodies, which exhibit other and different powers, and from which are evolved other and different phenomena. But what is important to our purpose, the new powers exhibited and the new phenomena evolved, belong to the same order as those connected with the original atoms, and bear no resemblance whatever to even the humblest manifestations of spirit. The same is true of the most complex forms of matter which can be produced either by the combination of the elements, or by the union with one another of substances already compounded. In no single instance do they make the smallest approach to sensibility or volition; powers which are universally found in beings possessing the feeblest spiritual endowments. Even the organic combinations of matter, which make up the several parts of living animals, and which have been supposed to furnish the materialist with his strongest arguments, in reality afford no support to his doctrine. The powers exhibited by these, though further removed from the mere elementary properties of matter, are still of the same order. In the most subtle processes of life we recognize only physical agencies, we observe only material phenomena. That which chiefly distinguishes the changes elaborated within the structure of vegetables and animals, is the union of complexity with regularity. The several parts of the structure, which is itself complex, are so formed, and are placed in such relations, as to cause the same processes to be continually repeated, until they are at length interrupted by some accident, or else brought to a termination, by the deranged and impaired condition of the organs upon which they depend. Each animal and each vegetable is in this way a little world within itself, embracing in its organization, all the provisions necessary for maintaining its cycles of phenomena during the period of its destined existence.

But it deserves here to be especially remarked in connection with our argument, that for the establishment and maintenance of these various processes of the living economy, other agents are employed be-

sides the different forms of ordinary matter—agents of a higher nature, of a more subtle essence, destitute of all the grosser and more sensible properties of matter—agents, which have no weight, which traverse without obstacle the densest bodies, and which move through space with a velocity of which the human mind in vain attempts to form any adequate conception. We refer to heat, light and electricity. These agents, whether to be regarded as three distinct principles, or, as many facts seem to indicate, only different modifications of the same power, are everywhere associated with matter, and are more or less intimately concerned in the production of all its phenomena. Especially is their agency important in the vital phenomena. The innumerable changes which are continually occurring within the structure of every living, organized being, all take place, if not through their instrumentality, at least under their direction and influence. No one of the functions of either animals or vegetables could be performed for a single moment without their assistance. Nay, further, withdraw from matter generally, the quickening and transforming influence of these wonderful agents, and all nature would be deprived of life and motion and beauty. The planetary spheres, it is true, might continue to revolve about their central orbs, but it would be in the black vestments of impenetrable, changeless night; it would be in the fearful chill and motionless rigidity of eternal frost; it would be in the unbroken silence and solitude of universal death.

If powers of a higher order than those which belong to simple matter are necessary, not only for developing and maintaining the various forms of organic life, but also for carrying forward the inorganic changes of the external world; and if these powers can be traced to a connection with agents more subtle in their nature than the material elements; then it is only reasoning from analogy to conclude that the incomparably higher powers of mind, cannot have a material origin, cannot arise from any combinations, however complex, of gross, inert matter; it is but reasoning from analogy, we say, to infer that thought, feeling and affection must be the attributes of a still more subtle and refined essence, which, by way of distinction, we call spirit. Any conclusion, short of this, would be no less at variance with the fair deductions from what we have learned of our own constitution, and that of the beings and things around us, than it would be inconsistent with that fundamental principle of belief, which leads us to refer every manifestation of power to a cause, substance or essence adequate in its nature to produce it.

There is another theory of the human soul of an intermediate character—a sort of compromise, between the two already considered,

which has found many and able advocates in the schools of modern Germany, and which, in the system of the eloquent Cousin, has been supposed to solve the problems of creation and the universe, by making the absolute and the infinite, objects of positive knowledge. According to this theory, the powers revealed in consciousness are to be referred to two distinct natures; the one, created, finite, individual, and the other, uncreated, infinite, universal. The sensations, ideas and impressions received through the medium of the senses, are regarded as belonging to the individual nature, they being in their character subjective, and having no necessary or perceivable relation to anything without the mind itself. The ideas derived from the reason, on the contrary, including all those suggestions and intuitions which have respect to external existences, whether considered by themselves or in their relations to one another and to the percipient being, are believed to be objective and impersonal; and though manifesting themselves in the individual, are supposed to have their origin in a higher source—to be, in fact, revelations of the pure, eternal, Divine reason. They mingle with the other facts of consciousness, and throw light upon them. They appear in, and govern humanity, but are not a part of it. They are a manifestation of the infinite and absolute intelligence, and a “true revelation of the divine in the human.”

This doctrine of the two-fold nature of the human soul is made to rest on the testimony of consciousness. The sensible phenomena, it is said, all manifest themselves as so many states, conditions or affections of the sentient being. Though produced by outward causes, they convey no intimation of these causes; nor would they alone awaken the slightest idea of the existence of anything whatever, beyond themselves. The rational phenomena, on the other hand, it is said, make themselves known in their spontaneous and unreflected condition, as impersonal and objective, as wholly independent of the being in whom they are manifested, so that they would continue to be the same, although that being were annihilated. This absolute character of the ideas of the reason can be recognized only by penetrating into the depths of consciousness, and there “beneath the apparently relative and subjective character of the necessary principles of intelligence,” catching the spontaneous suggestions and intuitions as they first appear, before they have been acted upon by the will, or have become mixed and blended with the ideas derived through the senses.

In reviewing this doctrine of the union of two natures in the spiritual constitution of man, two objections, we think, naturally suggest themselves.

In the first place, of which of these natures, we would ask, is consciousness an attribute? of the rational or the sensible? If of the former, how is it able to recognize the states of the latter? or if of the latter, how can it take cognizance of the states of the former? For although a being may perceive that which is external to its own existence, it can be conscious only of what passes within itself. It is necessary then to suppose the two natures, the finite and the infinite, the human and the divine, to be united in such a manner as to form but one individual, endowed with a faculty of consciousness, commensurate with its entire being—a supposition involving that which is altogether incomprehensible—which, if taught by revelation, might indeed be received as an article of religious belief, but which, without such evidence, cannot be made the basis of a philosophical system.

In the second place, we doubt the reality of the distinction between the sensible and the rational phenomena, in respect to their subjective character. Perception is as much a state or condition of the individual as sensation. The most subtle cognitions of the reason—the intuitive apprehensions of the relations of quantity and of numbers, of the relation between effect and cause, property and substance, the finite and the infinite, God and the universe—what are they but so many states or acts of the same individual? They differ from the various forms of sensation, inasmuch as the latter terminate in themselves, while the former go out to the objects and relations of whose existence they assure us. But both are alike modifications, and only modifications of ourselves. Nor can we get beyond ourselves, except on the principle of faith. The only rational ground for placing confidence in any of our varied perceptions is the veracity of God—the assurance that he has so made us, that when we rightly employ our several faculties, they will impart to us true knowledge—right conceptions of himself, and of the universe which he has created. Beyond this, we cannot go, for it is obvious that we might have been constituted in such a manner that all our senses should be but the avenues of illusion and falsehood. That we are not so made, we must take upon trust. Philosophy and religion, our knowledge of the material and of the spiritual, of this world and of the world to come, are found in the last analysis to rest upon the same basis, and must be alike received in the spirit of faith—of faith in the goodness and truth of Him who hath made us and revealed himself to us.

For any just idea of the nature of the human soul, and of spiritual beings generally, we must look to a different source from consciousness. This, at most, can only make known their states, their acts, their condition. It touches not their essence. It throws no

light upon their constitution. Whatever knowledge we may gain of this, must be derived from the teachings of analogy—not that analogy which is dependent upon a supposed resemblance between matter and spirit, but that higher analogy which has its foundation in the common relation which matter and spirit alike sustain to God—an analogy, the extent and force and fulness of which, has not commonly, we think, been sufficiently considered. Although so widely removed from one another in essence and in properties, both these forms of being originated in conceptions of the same mind, and were formed by the same hand. Both were, moreover, created not as ultimate in themselves, but only as means for the attainment of ends. And in the employment of both for the respective purposes intended to be accomplished by them, we observe the same unity of principle and plan, and the same variety of results. Hence it is reasonable to infer that in the case of both, the same method has been adopted for evolving this variety in unity—for building upon the same type, so many and so different forms, for developing through the same agent, so many and so different powers.

This inference is, moreover, greatly strengthened by the fact, that throughout the physical universe, in the production of its least and most insignificant, as well as its sublimest phenomena, the mode or principle of procedure is always and everywhere the same. We recognize it alike in the mineral, which is formed within the earth, in the plant which grows upon its surface, in the simple structure of the minute and humble infusoria, and in the elaborate organization of man, the head of the animal creation, in the scarcely discernible mote which floats in the sunbeam, and the mighty spheres which weave their mystic dance through the limitless fields of space. It is the principle of combination, association, aggregation. It is the grouping, the bringing into relation to one another of a few simple elements, constituted each with certain definite properties, so that by virtue of these properties, they shall spontaneously work out all the different results intended to be accomplished.

Such being the procedure of the Divine being in evolving the productions of the material world, what supposition is so probable as that of like procedure in the spiritual world? Such being the method adopted for the accomplishment of the Divine purposes in all those parts of the universe which come under our observation, and which we have faculties to investigate, the fair inference, we may almost say from experience, certainly from analogy is, that a like method has been adopted in those other parts, which lie without the sphere of our observation, and which we have no faculties for directly investigating.

Accordingly, on the ground thus presented, we shall assume the existence of spiritual elements, and shall suppose the spiritual part of the different races of beings inhabiting our globe, from man downwards, to be constituted from these elements, in a manner analogous to that in which their bodily organizations are formed from the material atoms. Adopting this hypothesis as the only one suggested by analogy, the only one which we have any data whatever for forming, we shall proceed to inquire, whether the spiritual phenomena presented by the several orders of the animal creation, correspond to it. And if we mistake not, we shall find upon examination, that they are not only in perfect harmony with it, but in numerous instances receive from it an explanation, such as they derive from none of the suppositions more commonly entertained upon the subject.

Commencing with the lowest division of the animal kingdom, we find here beings of the most simple character, presenting in their structure scarcely any distinction of parts or organs, but having all the functions essential to life equally and indiscriminately performed throughout their entire substance. And what is truly remarkable, if we take one of these little animals and cut it into several parts, each part including within itself all the powers necessary to continued nutrition and growth, soon becomes a separate and distinct animal in all respects as perfect as that from which it was taken. That the original animal was endowed with a spiritual nature, however limited and humble, we know from the powers of sensation and volition exhibited by it. Wherever these attributes are manifested, they afford evidence of something beyond and above matter. Nay, between these and the properties of the most complex forms of matter, there is a mighty chasm, which no analogies even enable us to bridge over. While, on the other hand, these attributes and the highest powers of human intelligence, although apparently so unlike, yet as we see them displayed by the different tribes of the animal creation, pass into one another by gradations which are scarcely perceptible. But this spiritual nature, or rather the essence or principle constituting it, must have undergone division along with the bodily organization with which it was connected, and through which it seems to have been uniformly diffused. It must, therefore, have been extended and composed of parts; and although these parts were connected in such a manner as to form but a single individual, the being so formed could not have possessed that simplicity of constitution, which is commonly ascribed to spiritual agents.

If we ascend in the scale of organic life, until we come to the division of articulated animals, we meet with beings less simple in their

structure, and presenting, especially in the connection between the spiritual and corporeal part of their natures, a very different type of character. Here we find specific organs appropriated to most of the different animal functions. We find a well developed nervous system, consisting of several distinct brains, situated at intervals along the body, with as many distinct sets of nerves both of sensation and of voluntary motion originating from them, and thence distributing themselves to the different parts of the entire animal. These several brains, or nervous centres, though separate from one another, are not in a state of isolation. On the contrary, they are traversed by a large, nervous cord, which chaining them together, establishes the most intimate relation between them. In this class of animals we find the powers of sense and will not generally diffused through their substance, but collected in these different brains, from which, through the medium of the nerves, they manifest themselves at the surface.

As an example of the type we are now considering, the common wasp may be taken. On separating the trunk from the abdomen, each part will be found to retain for a long time, both its sensibility and its power of motion. If the trunk be irritated, the legs and the wings will be put in motion, and it will obviously endeavor to escape from the cause of the irritation. If the abdomen be pressed, it will thrust out its sting with great vigor, and will direct it, at each renewed effort, as far as possible towards the point of annoyance. These struggles of the divided insect gradually decline in energy, until at length they cease altogether apparently from mere exhaustion, as neither of the dissevered parts contains all the organs necessary for continued nutrition. Here, again, we have the remarkable phenomenon of the division of a living, voluntary agent—a phenomenon readily explained, indeed, if we suppose such agents to be extended and to have parts, but wholly inexplicable on the supposition of their constitutional unity.

In man, and in vertebrated animals generally, sensation and volition, like all the other functions of life, are still further centralized. Here we find but one brain, one common centre of the whole nervous system. With this, the spirit has its immediate connection; from this, all the volitions emanate, and to this, all the sensations are referred. Paralyze this, and the powers of feeling and of action are alike suspended.

The nervous system, including the brain as its centre, is the constituted medium of intercourse between the mind and the body. It is only through this, that either holds any relation to the other, or can in any manner affect the other. All the communications of the will are

transmitted along it; all the impressions of sense are conveyed through it. Each nerve, joining in the brain upon spirit, and resting at its outward extremity upon matter, spans the gulf, which lies between these two so widely removed forms of being. Detach it from either of its connections, or interrupt at any point its continuity, and their isolation is complete. Could we look into the nervous system and understand fully its structure, could we learn the properties by which it holds relation on the one hand to the spiritual, and on the other to the material, and ascertain by what means the communications, whether of sense or of will, are transmitted along its innumerable channels, there would undoubtedly be revealed to us, a far more complex mechanism—involving, it is probable, new powers and new forms of contrivance—than we discover in any other part of the animal frame. There would also be a light thrown upon the constitution of spiritual beings, such as we cannot hope for, from the comparatively dim and uncertain reflections of material analogies.

The powers of the living agent, as well as the system of nerves through which they are manifested, being thus centralized in man and in all the higher animals, we should not expect to meet here with the phenomena of division observed in the humbler races. Still, however, if we attentively consider the instrumentalities employed in sensation and in volition, we can scarcely avoid the inference that even here the living agent is more or less extended, and if so, then there can be little doubt, from the analogy of the lower tribes, that it is also made up of parts.

Nerves, appropriated to conveying ideas and sensations to the mind, originate in all parts of the body, but more especially at its surface, and collected into separate and distinct bundles, go either directly or through the medium of the spinal marrow to the brain, where they are brought into direct relation to the spirit. Each one of these nerves, in order that the action which takes place along it, whatever that action be, may not pass to those adjacent, and thus give rise to confusion in our sensations, is insulated throughout its entire course. Preserved thus distinct in their progress towards the brain, these different nerves must arrive there at as many different points, and at as many different points act either mediately or immediately upon the spirit. How, we would ask, can the spirit be thus acted upon, if it have not extension?

The inference is equally strong from the nerves of voluntary motion.—These originating in the brain, pass out of that organ and go either directly, or through the medium of the spinal marrow, to be distributed among the muscles. Like the nerves of sensation, they are

kept distinct from one another throughout their whole course, and as they are exceedingly numerous, they must commence in the brain, at a great number of different points, and must consequently be acted upon by the mind at as many different points in the transmission of its volitions to the several parts of the body. How can this be, unless the mind have extension? In a word, if the mind be not extended, how can it act upon an extended organ, or how can an extended organ act upon it?

There are one or two other points of view from which we would glance at our subject before dismissing it.

If we deny to spiritual beings a compound nature or essence, and maintain the doctrine of their absolute simplicity, it becomes necessary to suppose as many specific creations as there are, or have been, such beings. Every individual human soul, the spirit or living principle of each one of the countless tribes of animals, from man down to the humblest thing that lives and breathes, must be the work of a special act of the creative power. Nay, further, as these beings shall continue to make their appearance in our world, each one of the innumerable multitude, with all its individual peculiarities, must come directly from the hand of the Creator. Few, we apprehend, will be prepared to admit this necessary consequence of the doctrine of the simplicity or oneness of living agents. On the other hand, adopt the hypothesis for which we contend, and all is plain, simple, natural. Instead of being immediately created, these agents are formed out of materials which previously existed. They come into being, under the influence of spiritual laws which determine their character, in the same manner as the material laws determine that of the bodily organization associated with them. And as the mental endowments and the corporeal faculties are in all cases precisely adapted to one another, there is probably some hidden tie or relationship existing between the spiritual and the material, by which such adaptation is secured.

This hypothesis, also, enables us to account for the hereditary transmission of mental as well as bodily peculiarities. Many of these are too deeply seated in the spirit—too closely connected with the conscience and will and affections to be explained from any imagined influence of the material organization. They can be satisfactorily accounted for, only on the supposition of laws of descent, which extend their influence over both the mind and the body, and mould alike the character of each.

This hypothesis serves further to explain the great changes which the mind undergoes—the remarkable enlargement which takes place

in all its powers and faculties in passing from the feeble condition of infancy to the strength and vigor of manhood. As in the analogous case of the body, the same laws which determine its original formation, provide for its subsequent development and growth. We know it is usual to regard the soul—the living principle within—as the same in essence, at all the different periods of its existence, and to refer the varying manifestations of its powers to alterations in the organic medium, through which they are exhibited. But the explanation, as we think all must allow, is far from being satisfactory. Unless we ascribe to the brain an office in the evolution of the mental phenomena beyond that of a medium or instrument, no changes in it can sufficiently account for the gradual expansion and unfolding of those spiritual powers which are revealed only in the intimacy of consciousness. Any explanation of these, derived from that organ, will be found upon examination, to make it in reality, not the instrument of the living powers, but their seat and their source, and thus to resolve itself into the doctrine of materialism.

The same hypothesis accounts equally for those minor changes which take place in the character and powers of human beings, and also, though to a much smaller extent, of many of the animals, from the influence of culture and habit. The fact is one with which we are so familiar, and which appears to us so natural and simple, that it would seem at first view not to require an explanation. But it must be remembered that alteration of properties implies alteration of substance. Wherever there is change in character, there must be a corresponding change in that to which the character belongs. Wherever there is change in powers, there must be a corresponding change in that which is the seat of those powers. And how in the case of living agents, can these changes be accounted for, on the supposition of their oneness or simplicity?

The view which we have thus presented of the constitution of spiritual beings, when applied to the human soul, may appear unfriendly to a belief in its endless duration—may seem rather to favor that of its being formed only for a temporary existence, and destined at last, like the body, to undergo dissolution. We think, however, it is not so. We believe that no sound argument for the future life of man, will lose anything of its force, from the admission of our doctrine. Nothing seems to us more clear than that we cannot legitimately infer from the nature of the human soul or of any other created being or thing—its immortality. Arguments drawn from this source, as well as those derived from the exalted powers of the spirit and its longings after a higher and better life, however they may serve the purposes

of declamation, take no hold upon the reason—fasten no convictions in the understanding. Affecting only the imagination and desires, they leave the mind in a state similar to that described by Cicero in his *Tusculan Questions*, as produced by the reading of the *Phaedo* of Plato: “Nescio quo modo, dum lego, assentior; cum posui librum, et mecum ipse de immortalitate, animorum coepi cogitare, assensio omnis illa elabatur.”

Whether the spiritual part of man be destined to survive death, and to live on forever, is not a question of philosophy, but simply one of fact, and one too of this peculiar character, that it is dependent solely upon the will of the Deity. It is obvious, therefore, that all our knowledge in respect to it must come from Him. He alone has formed us, and He alone can know his purposes concerning us. So far as it hath pleased Him to reveal them, whether through the teachings of inspiration or the intuitions of our own moral natures, and so far as we are able to gather them from what is discernible of the divine plan in the constitution and government of the world around us, so far we may advance in solving the question in which all have so deep an interest, and which in all ages has been the great problem of our race—but no further. We will not, however, extend these remarks upon a theme which has only an incidental connection with the subject of our essay. We may, possibly, resume it on some future occasion, and give to it a consideration more in proportion to its importance.

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#### ARTICLE IV.

##### THE RELATION OF LANGUAGE TO THOUGHT.

By W. G. T. Shedd, Professor of English Literature, University of Vermont.

“It is a truth,” (says Hartung in beginning his subtle and profound work on the Greek Particles,) “as simple as it is fruitful, that language is no arbitrary, artificial, and gradual invention of the reflective understanding, but a necessary and organic product of human nature, appearing contemporaneously with the activity of thought. Speech is the correlate of thought; both require and condition each other like body and soul, and are developed at the same time and in the same degree, both in the case of the individual and the nation. Words are the coinage of conceptions, freeing themselves from the