

Theology on the Web.org.uk

Making Biblical Scholarship Accessible

This document was supplied for free educational purposes. Unless it is in the public domain, it may not be sold for profit or hosted on a webserver without the permission of the copyright holder.

If you find it of help to you and would like to support the ministry of Theology on the Web, please consider using the links below:



Buy me a coffee

<https://www.buymeacoffee.com/theology>



PATREON

<https://patreon.com/theologyontheweb>

[PayPal](#)

<https://paypal.me/robbradshaw>

A table of contents for *Bibliotheca Sacra* can be found here:

https://biblicalstudies.org.uk/articles_bib-sacra_01.php

dorsed by the thousands who annually throng to the cabinet where the Sistine Madonna is now set up in solitary majesty, and derive from the study and contemplation of this wonderful work of art not only delightful instruction, but also suggestions of thought and emotion touching the purest and deepest chords of our nature. If this has been accomplished, to however small an extent, the writer is abundantly satisfied, trusting that the collection of interesting details relating to the painting, scattered over many volumes not readily accessible, will be welcomed by every admirer of the famous Madonna di San Sisto.

ARTICLE II.

THE SYNTHETIC OR COSMIC PHILOSOPHY.

BY JOHN BASCOM, LL.D., PRESIDENT OF THE UNIVERSITY OF WISCONSIN.

As the synthetic philosophy, so called by Mr. Spencer, or cosmic philosophy, as Mr. Fiske prefers to term it, has recently received a comprehensive yet compact statement by Mr. Fiske, and has been presented in full for a series of years by Mr. Spencer, it is in a position to claim and to accept thorough discussion. Its advocates are laborious, discriminating, and able; while their work is the culmination of a vigorous and continuous line of philosophic thought in England, extending through more than two centuries, and at the same time including much of the most advanced scientific sentiment of the present period.

There have been but few advocates of any system better fitted to enlarge, harmonize, compact, and present a philosophy than is Mr. Spencer. His powers of analysis and synthesis are extraordinary, and his style is clear, full, and plausible in the extreme. The breadth of the topics discussed, and his fulness of knowledge in each, enable him to frame an argument captivating in matter, and impressing the mind with more than its real strength. The scope and vigor

of Mr. Spencer's discriminating and combining powers are something to be proud of, and to be rejoiced in, on the part of all who heartily entertain the themes presented. His candor also is very noteworthy; the candor of a mind too much occupied with its own conclusions, too sure of their value, and too able to confirm them by material taken from many diverse systems, to feel any strong temptation to leave its primary constructive labor and enter on an aggressive, destructive one. He pulls down only as he is in search of space or material for a new edifice. Rarely do bitter words escape him.

Mr. Fiske is an able advocate. His thought and his method of presentation are in harmony with those of Mr. Spencer. He states the positions of the philosophy clearly, combines them well, enforces them vigorously with new and old material. It may be rightly claimed that he does something more than this, and occasionally makes a fresh and cardinal point. We do think, however, that he has a little of the zeal of a proselyte, that he bandies too freely about the adjectives *metaphysical* and *theological*, in the restricted and abusive meaning they have acquired in a limited school, and that there is an assumption, unintended perhaps, but none the less real, of superiority in his philosophical attitude, that can hardly receive a milder epithet than offensive. Of the last and more serious censure we give a few illustrations.

"This statement, I may observe in passing, is well illustrated by the abortive attempts of missionaries to civilize the lower races of manhood by converting them to Christianity."¹ "Though we may, and do, throw overboard the whole of the semi-barbaric mythology in which Christianity has hitherto been symbolized, we shall find, nevertheless, that we have kept firmly in our possession the ethical kernel for which Christianity is deeply valued even by those who retain the whole of this mythology."² "To him" — that is, to him who follows intelligently Mr. Fiske's exposition — "the most refined anthropomorphism to be met with in

¹ *Cosmic Philosophy*, Vol. ii. p. 242.

² *Ibid.* p. 454.

current theological treatises will no doubt seem as unsatisfactory as the anthropomorphism of orthodox 'revivalists' must seem to Mr. Holten or Mr. Martineau."¹ It is not the thought we criticise in these passages; we are struck only with the elevation of the writer and the estimate at which he holds his fellow citizens in the realm of knowledge.

It is a reduction of our criticism on his use of the word *metaphysical* that he endeavors to define the difficulty in the method of reasoning termed metaphysical, and so takes the adjective from a general to a restricted meaning. It is sure, however, in the majority of cases, to retain its well-established use, and, in spite of definition, to remain a term of general disparagement—a fling at a class of reasoners, rather than a calm censure of a kind of reasoning. Unverifiable ideas fall exclusively to no one set of inquirers, and are to be objected to in detail and with designation, or the censure becomes not merely an unverified one, but an irritating one as well. It is to the praise of Mr. Spencer and Mr. Fiske alike, that their method is metaphysical, in the primary meaning of the term; and we see no reason why they should unite with the strict positivists in turning the word into a term of vague, exasperating, and unjust reproach.

While both writers would feel that they possess, perhaps in an unusual degree possess, the historic sense, we nevertheless think that they rarely feel the full force of any doctrine based on intuition; that both of them are incapable, and especially Mr. Fiske, of quite apprehending the strength of the positions they assail. This is a fault we all have in common. The walls of the Jerichos we surround we expect will fall down of their own accord after a sufficient blowing of ram's horns.

The cosmic philosophy is pre-eminently one of evolution—evolution in its strict sense, without increments. The forces of the universe, convertible, but indestructible, are taken at some one stage, as early as we can reach them, and traced in their necessary unfolding through all subsequent

¹ Cosmic Philosophy, Vol. ii. p. 469.

stages. This is a very rigid, self-consistent idea, and is present in all reasoning to set very positive limits. Is it safe to start a philosophy with so exacting and inflexible and *a priori* an idea? Will it not of necessity leave one side some of our facts, and run down some of our data? This cosmic philosophy has settled this one primary conclusion, and remorselessly subjects all considerations and all doctrines to its necessities, heavy and imperative as they are. We doubt whether it is possible to do justice while in possession of such stern and sweeping antecedent convictions. We might as well expect the commander of an army to arrest a battle to save the life of a man, as to expect one who is pleading for such a principle to deal singly and fairly with detached, contravening facts. We are afraid of so exacting, so arbitrary a principle, planted at the very centre of immature knowledge and incipient conclusions. Most questions of interest are foreclosed before the discussion is opened. Who can admit the rout of a division when that of the whole army is incident to it?

The doctrine of evolution, in its presentation as a complete philosophy, is chiefly Mr. Spencer's; though its foundations in mental science were laid long before his labors commenced, and most of the scientific facts which sustain it have been furnished by others. He is simply the master-builder. We owe much to this philosophy. The religious spirit has been, and will yet more be, chastened and instructed by it. That grand, compact, harmonious system of divine law, known as the universe, will by virtue of it get possession of religious feeling and religious action as never before. The God of nature and of revelation will become one in quite a new sense.

This philosophy is remarkable also, and beneficent in its morality. We do not believe that its moral foundations are securely laid; but the spirit of morality it has caught, and has expanded admirably in its precepts. The intuitionist may learn much from the utilitarian. The latter, bound in self-defence to make his morality complete, and having in

his hand the real clew to inquiry, the practical results of action, has developed well in many directions the lines of duty. If we are to accept Mr. Fiske's exposition, this philosophy is not without its religious faith, including the gist of central truths. Here, however, more than in morals, the philosophy seems to us to have transcended its premises, and to be marching off with plundered wealth. Every man is welcome to take what he can of truth ; there is no objection to this. We must, none the less, while conceding everything to the individual, hold systems to consistency. Mr. Fiske and Mr. Spencer are quite at liberty to believe more than they ought logically to believe, and it is hardly worth our while to note the fact ; but the doctrine of evolution, now passing through their hands, is a matter of wide interest to us all. We do wish to know what this doctrine logically contains ; for these contents are sure to be evolved, sooner or later, and to constitute its fruits of good and evil. We would charge nothing upon writers on this theme beyond their own statements ; but the doctrine itself stands with us on another footing. We would subject it to searching inquiry, knowing that in each subsequent generation its germinant principles have issued in conclusions which those who held them in a previous one would have vigorously denied.

Because we do not accept evolution in its absolute form as the continuous, progressive metamorphoses of definite forces, we are not thereby excluded from an appropriation of many of its doctrines. From the beginning till the advent of life, a physical evolution is a sufficient and probable theory ; and after that period, with such increments as the facts seem to imply, it may still remain the foundation of development. The phenomena are left to arrange themselves under established tendencies or new tendencies, as they most incline.

Our first objection to the theory of evolution is, that it gives no sufficient footing to man. By evolution we mean that strict continuity which allows no increment whatever to the forces involved. Under this view, it is impossible to

understand such a transition as that expressed in the passage from unconscious to conscious life. It is a change occurring comparatively late in the history of the world; and we have no suggestion, or hint of a suggestion, how unconscious material—material unconscious for a period of immense duration—should assume a conscious state, and so reach the germ of a new form of being—one which Mr. Spencer and Mr. Fiske profess themselves willing to regard as irresolvable into matter or physical force. Just in the degree in which mind and matter are accepted as separate may the advocates of evolution be called on to explain this transition, which is the condition of so profoundly new a thing. Unless mind is to be allowed to lapse into matter, we must have some hint how, in this its first essential feature, it came to spring out of matter. How did a conscious state arise out of unconscious ones? What was the nature of the transition? and what provoked it? The obscurity of the first instance is immaterial. There it was, new in reference to the past, startling in reference to the future.

But granting, for no other reason save that it is wanted, this first condition of intelligence, the passage from unconscious to conscious activity, it yet seems plain to us that no sufficient basis is found in evolution for intelligence. The advocates of this theory—or, rather, that portion of them with whom we are immediately dealing—are quite sensitive to the charge of materialism, and we have no wish to use the word for any other than purely philosophic ends. Yet it is evident that evolution cannot be maintained in a dualistic scheme. There is not merely the difficulty of a double origin, but that also of an independent efficiency in each of two lines of events. The last step of materialism is the identification of the phenomena of mind with those of matter, regarding them as the same facts looked at on different sides; though precisely what this language means we fail to understand. A first step toward materialism, and one more telling by far than any later one, is that taken by Mr. Spencer, when he identifies the laws of intellectual with those of physical facts.

If the sequence of thought is incident to a physical sequence, and controlled by it, it is comparatively a matter of indifference whether the phenomena of mind are in some way identical with those of matter, or diverse from them. Mind is as completely in subjection to matter in the one case as in the other. The manifestations and laws of facts are of more interest to us than their essence — the phenomena than the noumena; and to concede the diversity of the second, while identifying the first in essential, inherent laws, is a barren and an inconsequential concession. We may grant that no mental act takes place without an accompanying nervous act; we may concede the claim that each thought and feeling in their diversity are attended by a corresponding difference in the molecular motions that go with them; and still the inquiries remain: Do material changes exclusively initiate and determine intellectual changes? Or is the reverse true? Or are these two kinds of changes, from time to time, in reference to each other; reciprocal causes? We understand Mr. Spencer and Mr. Fiske to answer in the affirmative the first inquiry, and so to exclude the two remaining questions. "It is, nevertheless, unquestionable, both that every change in consciousness is conditioned by a chemical change in ganglionic tissue, and also that there is a discernible quantitative correspondence between the two parallel changes."¹ "Thus we are led to infer, as the ultimate unit of which mind is composed, a simple *psychical shock*, answering to that simple *physical pulsation* which is the ultimate unit of nervous action."²

What is far more important than any concession of its advocates, the doctrine of evolution, starting with physical forces alone, *must* put each subsequent manifestation under their control. Mental phenomena must be but accompanying symbols of the physical facts that underlie them. To make them anything more than this would be to concede to mind a new start, an increment. But intelligence, as intelligence, cannot be saved on these grounds. The mind gives attention

¹ *Cosmic Philosophy*, Vol. i. p. 413.

² *Ibid.* Vol. ii. p. 131.

to a proposition in mathematics. It seems to itself to pass from conclusion to conclusion by virtue of its own insight. Its connections are its own, the interlocking of the terms of the proof as an intellectual process. All this, however, under the theory of evolution, is an error. The efficient forces are at work in ganglionic tissue, and these symbols of thought are simply the visible dial-images of a wholly different, invisible mechanism.

We are by no means prepared to concede that each diversity of mental state implies a diversity in the correlative cerebral state. It is as yet not so much as proved that any one exact molecular change is incident to any one precise thought or feeling. The mind may be conditioned in its activity to nervous expenditure, without being conditioned to a precise form of it in each instance. One may move north or south, up or down, by equivalents of muscular energy, and with a general uniformity of muscular action. But allowing this pure and extended assumption, it is still open to us to affirm that the mind, as a thinking agent, indicates and determines the ganglionic state, and so is emancipated from it as a controlling force.

We believe that the brain and the mind are reciprocal agents in reference to each other, and that if a state of brain may determine the thoughts, a state of the thoughts may equally determine the accompanying molecular changes in the brain. If the control of the brain over the mind is shown by disease, the control of the mind over the brain is shown by health. Indeed, the maintenance of this control is that in which health largely consists. Sanity is the ability to think, is the power to make thought coherent. Insanity is the inability, or the partial ability, to think—the overruling of the mind by incoherent, or wrongly coherent, impressions. If the conclusion is not incident to the premises as intellectually seen, if the action does not follow the emotion as a conscious state, if the emotion does not spring from the contemplation which seems to occasion it, then our spiritual life is unreal; its cohering forces being found not

in it, but in another region quite—that of matter. No wonder that we hear in this philosophy so often of “thought below consciousness,” for there, truly, is where all thought with it takes place; of “unconscious cerebration,” for the symbols of a formula on the black-board, as they appear under the rapid hand of the mathematician, are not more secondary to the real truth that underlies them than the conscious conclusion to the forces that occasion it.

The materialistic philosophy has now for many years been introducing its principles: That all knowledge is relative; that it is ultimately the product of the senses; that it is united by associations, physical in their nature, till the mind has come to be regarded as a congeries of results, of secondary impressions incident to the primary, the physical facts; and all real activity in the mind itself is excluded. The wall that receives the vague, floating shadows of external objects has hardly less to do with their nature, formation, and movement than the mind, the screen for the shadows of physical facts, has to do with their character and connections. This impotence of mind, this absolute exhaustion of the intellect till no substance of power is left in it, is hidden from many by the language employed. This is capable of a more spiritual meaning than that actually intended, and this meaning is given to it. “Association of ideas” seems a harmless phrase; but when it comes to denote the tendency of a nervous state or activity to repeat itself, and this tendency is made the cause, the underlying efficiency, in classification, while classification, the establishment of resemblances, is looked on as the one typical product of thought, our pleasant words have run away with the entire inheritance of the mind in its own rational processes.

Yet this philosophy of evolution admits an intelligent *act*, an *agency* in the mind, at its peril. The nexus of causes is thereby instantly cut, the equivalence of forces disappears. No feeling as a feeling can be measured; the physical energy to which it is incident is the only tangible term; and if this is lost sight of all calculations disappear; evolution is at an

end. The same is true of thought. Thought can be managed so long as it lies a symbol above the physical conditions which secure it; but recognize it as itself an efficiency, by insight and direction taking the initiative, and our power to trace its limits and measure its values is lost. Thought, pure thought, thought primary, establishing molecular changes as secondary conditions of activity, is a spontaneous, measurably independent power, and breaks through the exact equivalents of evolution. There is no compulsion in such thought—no molecular impulse settling the directions and the degrees of activity. The mind thinks toward its conclusion, and is not driven toward it; in other words, it *thinks*, and does not delude itself with incoherent images, which it mistakes for coherent premises; does not delight itself with a movement which it regards as real, though it is not so much as the shadow of the actual efficiencies.

Evolution also fails to provide for man in failing to provide for liberty. The battle for freedom is an old and wearisome one; neither do we see that Mr. Spencer and Mr. Fiske have altered its issues. A clear statement of each doctrine constitutes, in this field, the strength of argument, as the point is too essential to receive much aid from truths beyond itself. It is a little strange that Mr. Fiske should pass over fortuity to the defenders of liberty, and reject fatalism as falling to those who extend law in its rigid sense to human action. It would seem that nothing but clear perception and honest language were requisite to settle the logical issues of each belief.

We grant that all which constitutes the dumb show, the ostensible marks, of liberty may be present to human action under the interpretation of evolution. Motives are there; action follows upon them; the mind hesitates between them, decides between them, if you will, chooses between them; no symbol of a free action fails to appear, and to be apparently operative in its appropriate way. If, therefore, the power to use such words as "motives," "devices," "obedience," "disobedience," relieves one from the charge of

fatalism, the evolutionist is not a fatalist; but if by fatalism is meant such an inclosing of rational with physical activities, such a subordination of both to immutable laws, that only one result ever has been possible—has been contained in the forces actually operative,—then the evolutionist is, and must be, a fatalist. Let this philosophy use a phraseology saturated through and through with notions of liberty, apply the terms “motives,” “influence,” “persuasion” to the individual, and look upon him as an agent in this way to be controlled, and we feel no shock; let us measure our levels more exactly, and apply them to a broader field, and our contentment disappears. A single person can be persuaded,—formally so,—but who is to persuade him? Neither A nor B, except a force is already operative on them to that end. The persuasion cannot be furnished, the new motive brought forward, unless it and the action incident to it are both already included in the previous conditions. In one word, the universe given, but one result is possible; and human action is under the same close, stringent, settled conditions that fall to other parts of it. Mr. Fiske’s philosophy, in its entire argument, its every word and phrase, was settled from the beginning, or at that remote period which we are wont to call the beginning; and Mr. Fiske has at length simply surrendered the symbols of a process that physical forces have been for these aeons maturing. It is immaterial what name we apply to such foreclosed results; but if we withhold the word “fatalism,” we shall scarcely find another opportunity for its use. A fixed sequence is involved in evolution. Motives, feelings, thoughts, as conscious states, are only the incidents of processes which move on wholly independently of them. This philosophy, therefore, gives no place for man as a conscious, free being; since not only are his conscious states not independent elements of force, they are not even transitional terms in the real under-current of power, but lie to one side of it, attached to it in a strange, inconsequential way.

But is the doctrine of liberty one of accidents— one of

fortuity? "As I have already said, no middle ground can be taken. The denial of causation is the affirmation of chance; and between the theory of chance and the theory of law, there can be no compromise, no reciprocity, no borrowing and lending."¹ Volition is one of the ways in which the mind acts; and if we grant that the mind thinks, the mind feels, there is but little difficulty in granting that it chooses — that it can, under fitting conditions, decide between two lines of action, which it will adopt. If there is no spontaneity in thought, if it is the expenditure of a force antecedently lodged somewhere in matter, or is wholly incident to the activity of such a force, then there is in the mind no preparation for choice; if it were able to choose, it would be unable to execute its choice, since all its remaining powers would be locked fast in the ongoing of necessary causes. The question, then, is a broader one than of mere freedom, and is the inquiry whether the mind can do anything? whether it is a nodule of forces in a state of transfer, or has its own powers primarily referable to itself?

In two directions we see of how little worth the denial of the identity of physical and mental facts is in holding back Mr. Spencer from materialism. If no primary power is conceded to the mind, its derivative powers or transferred energies all come to it through the body; for this is its line of union with the fact, and mind becomes at least the product of physical forces. Again, in denying its phenomena to be identical with those of these forces, they are ruled out of all connection with the facts of the world and influence over them. There is present a certain molecular force, which, in its expenditure, is the condition of certain thoughts. This molecular energy must pass into those thoughts, and find transfer through them; or, simply as molecular energy it must pass on and work out other molecular conditions, the concomitants of subsequent thoughts. The persistence of forces binds us to one or other of these views. If the first be correct, then the thought sinks down into the physical

¹ Cosmic Philosophy, Vol. ii. p. 187.

series, and is a term of it ; if the second is preferred, then thought lies to one side the lines of transmission, and is without service or office in the world — is an addendum which modifies nothing. The question, then, of freedom does not stand by itself, but involves with it that of the possession of any primary powers of the mind. Conceding spontaneity to the mind in thought, the alternative — chance or law — which Mr. Fiske puts so positively, easily disappears. If the mind can think, and so be a law to itself, it can choose, and be a law to itself in choice. Both actions merely imply in it independent, primitive efficiency. It is the nature of mind to open activities, to initiate efforts ; and there is nothing in the least surprising about it, unless we institute a sharp contrast between its laws and the laws of matter, and cherish an overweening estimate of these last.

The law of causation is not universal ; that of spontaneity and liberty supplements it ; and causation and chance do not divide the field between them. In reference to second parties, the actions of men are as though they were free, whether they be free or not ; since we do not pretend to be able to trace the causes operative in them. Yet we have no difficulty in dealing with our fellow-men ; we are not involved in the confusion of chance-events. Choice lies between two things, not between an hundred ; choice is perpetually fixing for itself lines of action, and forecasting a future which we also can forecast with it ; choice, after the most spasmodic expression, quickly builds up for itself new conditions of order ; choice is not without motives, though motives are without controlling force ; choice is resolvable, all of it, into action along one line, that of conduct or character. There are only two things which present, in reference to each other, an alternative — duty and pleasure, virtue and vice. The mind is not irrational because it is free. Its freedom is exercised under, not above, its rational faculties. Between pleasure and pleasure there is no opportunity for choice, but only for an estimate ; between virtue and vice there is no room for an estimate, but only for a choice.

Evolution gives no sufficient ground to man, in failing to accord to him any real knowledge. Mind, by virtue of its union with a nervous system, is a sensitive organism, on which certain impressions can be made — impressions which are inevitably collocated in certain classes and relations, by their method of arising and their constant repetition. Hence all knowledge is relative, not absolute — relative in kind to the organs impressed, relative in connections to the connections physically secured between these impressions. It matters but little to us that this aphorism of the relativity of knowledge has a large historic following; it is, as applied to our higher knowledge, either the truism that to know is to know, or it is false.

“ We accordingly say, for brevity’s sake, that we cannot know the absolute, but only the relative. And in saying so we implicitly assert two practical conclusions: First, we cannot know things as they exist independently of our intelligence, but only as they exist in relation to our intelligence. Secondly, the possibilities of thought are not identical or co-extensive with the possibilities of things.”¹

These assertions are true, and only true, on the supposition that our knowledge is all ultimately sensational. This issue made by the empirical philosophy is not its strength, but its weakness. An organ of sense, a nervous system, as an essential intervening instrument of knowledge, constitutes an element in that knowledge which we cannot exactly measure, much less eliminate. Sound is due in part to the ear, and a knowledge of sounds involves the sense of hearing — is relative to it. Others may hear not at all while we hear, or may hear differently from us, or hear more than we do under the same circumstances. Some of these differences due to our senses we detect; others, doubtless, are hidden from us; and it is plain that the hearing of no one of us exhausts the possibilities of things. When we come to intuitive truth, the case is every way diverse. That two and two make four is not a proposition dependent on any sense what-

¹ *Cosmic Philosophy*, Vol. I. p. 10.

ever, or all the senses combined. It is as applicable to thoughts as to things. There is not the slightest divergency, nor the possibility of divergency, in men's judgment concerning it. There is no intervening organ to introduce a personal element, and no discrepancy in results to hint a latent relativity. The truths of mathematics are absolute; for the knowing in them is a pure knowing, a direct knowing, a knowing that is not sensational. There is, so far, knowledge that is absolute, knowledge to which the knowing faculty adds nothing of its own. The complete, instant uniformity of the results shows this, is a sufficient presumptive proof of it.

We do not wish to argue the point. The best possible arguments are the statements of the adverse philosophy. No one can believe that it accepts them otherwise than as results forced upon it. "Mathematics starts from simple propositions concerning quantitative relations of numbers and extension, which are verified, once for all, by a direct appeal to experience."¹ How many of the higher results of mathematics have ever had from experience even an apparent verification? In what sense is it that the proposition "Two and two make four" is verifiable in experience, in sensation? Units are known by weight, by size, by color. But in none of these respects is the assertion true; it is only true of abstract units, which lie beyond experience.

"It is quite possible that there may be worlds in which numerical limitations are not binding.² In Mr. Hall's hypothetical world, where two and two make five, the law of evolution may not hold sway."³ Why not hold sway? Unless such a conception is, as we believe it to be, absolutely absurd and disorganizing, evolution should still go on, and incorporate the principle "Two and two make five" into the basis of its organic systems and new knowledge. Nothing can heighten the difficulties of the above positions, and we leave them.

The same confusion appears, as the result of this dogma of the relativity of knowledge, in connection with the infinite

¹ Cosmic Philosophy, Vol. i. p. 116.

² Ibid. p. 276.

³ Ibid. p. 275.

and the absolute. They are pronounced "utterly and forever unknowable." Yet the language is scarcely less than self-contradictory; for how can we even designate that which is utterly and forever unknowable? And how can we know that we mean what another means by the words "infinite," "absolute"? Few authors use these words more than Mr. Spencer and Mr. Fiske. Do they, or do they not, mean anything by them? Are the words "infinite space," "infinite time," mere blanks to them, as would be "abracadabra" space?

Again, no place is found in this philosophy for man, because there is given him no material for thought. The thinking process or power is, as we have seen, remanded to the unconscious and physical region of the nervous system. It is this which determines thought, not thought that establishes and uses these connections; the function does not make the organ, but the organ the function rather. This removal of thought as an efficient power from the mind is the more readily made,—nay, is necessary, because no material for its processes is furnished it. Sensations, perceptions, on the one hand, and intuitive ideas, on the other, are essential to thought. The sensations are to be compared, referred, inquired into in time and place; and for this purpose the ideas of resemblance, causation, time, space, must be at hand. Sensations as sensations are complete. All that the mind can do with them is, by thought under its antecedent ideas, to throw them into comprehensive categories, and draw from them serviceable conclusions. The doctrine of evolution finds no place for this work as a conscious process, since it transpires as an unconscious one, and the ideas incident to it are not plucked up from their sub-conscious depths till the work of organization has been done.

"It has already been sufficiently proved that the universality and necessity of unconditional propositions, whether relating to space-relations or to any other relations whatever, must inevitably result from absolute uniformity in the organic registration of experiences, and therefore does not involve

any *a priori* element.”¹ “For the ideas formerly called innate or intuitional are the results of nutritive tendencies in the cerebral tissue, which have been strengthened by the uniform experience of countless generations until they have become as resistless as the tendency of the dorsal line of the embryo to develop into a vertebral column.”²

Regulative ideas owe their necessity and priority in experience, then, to the fact that, as the framework of order in events, they are incorporated into that transferred order incident to an impressible, active nervous system. The words of the manuscript reappear in the letter-press. Here a sub-conscious process is made, in entire consistency with the philosophy, the equivalent of a conscious one. We are at a loss to see where this tendency to substitution is to stop. Why is not “the tendency of the dorsal line of the embryo to develop into a vertebral column” also a portion of our mental furniture. It constitutes no explanation whatever, to our mind, of regulative ideas as conscious possessions, that sensations have conformed to them. The instinctive, automatic adaptation of the young of animals to space and time relations, is no equivalent for an intellectual, conscious process; and the change of the one into the other involves the entire problem. So Mr. Spencer would seem to think; for he attempts to give the method of transfer, the steps by which an unconscious fact becomes a conscious possession. In this he seems to us signally to fail, and, at the same time, to set aside the quiet assumption, on the part of Mr. Fiske, that no explanation is needed — that a fact below consciousness is always the equivalent of one in consciousness, and may actually appear there at any moment.

There is, as is usual in the empirical philosophy, in connection with regulative ideas, a false formal element and the quiet appropriation, on the part of Mr. Fiske and Mr. Spencer, of the notions necessary to progress. We illustrate the fact in connection with causation. “Causation may, therefore, be defined as the unconditional, invariable sequence of one

¹ Cosmic Philosophy, Vol. i. p. 101.

² Ibid. Vol. ii. p. 161.

event, or concurrence of events, upon another.”¹ Here we have sequence, a phenomenal fact, substituted for causation proper, an intuitional fact. But it is impossible, on such a conception, to carry forward a philosophy of evolution, whose fundamental notion is force, and whose first truths are the permanence of forces and the equivalence of forces. Overlooking wholly its own weakness, the cosmic philosophy proceeds as if all the resources of thought were at its disposal. The noumenon is spoken of as a necessary postulate, and used as such in the entire argument concerning matter and God. But this is to restore the intuitive idea of causation without a recognition; it is to acknowledge it indispensable, without assigning it to its appropriate power. Nor does this objection, taken by us, come from us alone. The positivist, from precisely the opposite quarter, draws attention to the unwarrantable conclusion. “M. Littré, the most illustrious follower of Comte, unreservedly stigmatizes as ‘metaphysical’ this very doctrine of the unknowable.”² The ground of this objection is, that the “unknowable” includes an idea not given in the phenomena, is a surreptitious introduction of an element outside of positive knowledge. Of this introduction the notion of causation is the only sufficient justification, and hence the unknowable involves this intuitive idea. But the acceptance of one intuitive idea is the overthrow of the empirical philosophy. The cosmic philosophy postulates a position unexplained and incompatible with its fundamental assertions.

The language of Mr. Fiske is both formally and profoundly in conflict with any other than an efficient causation, in spite of his definition, his theoretical position, given above. We care not for this fact; we care only for the fact that evolution, as an empirical philosophy, is untenable at this point. “It is for the same reason that the mind is compelled to believe the necessity of causation, and that the cultivated mind, which can realize all the essential conditions of the case, is compelled to believe in its universality. For what is the

¹ Cosmic Philosophy, Vol. i. p. 158.

² Ibid. Vol. i. p. 262.

belief in the necessity and universality of causation? It is the belief that every event must be determined by some preceding event, and must itself determine some succeeding event. And what is an event? It is a manifestation of force."¹ Yet a few pages later an "efficient cause" is expressly rejected, as a metaphysical conception, in favor of a "phenomenal cause."

The theory of evolution every instant includes the notion of efficient forces, of stringent causation. This ever-returning contradiction is the inborn infirmity of the cosmic philosophy. "What defies suppression in thought is really the force which the motion indicates";² "Utter inability to conceive a variation in the sum-total of force"³; "What is thus proved true of matter and motion is *a fortiori* true of force, out of which our conceptions of matter and motion are built";⁴ "Every manifestation of force must be preceded and followed by an equivalent manifestation:"⁵ such are the assertions we meet with at every turn in the works of Mr. Spencer and Mr. Fiske. To increase the confusion, we add one more extract: "And what do we mean by force? Our conception of force is nothing but a generalized abstraction from our sensations of muscular resistance."⁶ Then matter and motion and the universe, from the opening to the end, are the abstraction of a sensation.

We take our second leading objection to the cosmic philosophy, that it finds no place for God — actually, not ostensibly. Ostensibly, it rebukes the irreverence of his worshippers, and sets up his throne again, behind a new veil, at a greater remove from the gaping crowd. Having debased intelligence and volition in its conception of them, it rightfully enough denies them to God; yet it has nothing better to put in their place. Force alone remains, and, be it what it may, it must stand for God.

We again draw attention, in this connection, to the contradictions — or inconsistencies, if you choose, — of the phi-

¹ Cosmic Philosophy, Vol. i. p. 147.

² Ibid. p. 282.

³ Ibid. p. 286.

⁴ Ibid. p. 288.

⁵ Ibid. p. 314.

⁶ Ibid. p. 172.

losophy with which we are dealing. It starts with the assertions, "That we are forever barred from any knowledge of the absolute, the infinite, or the uncaused"; that it is "utterly and forever unknowable"; that this being its one characteristic, it is fittingly termed "the unknowable." Yet in this word there are two latent inconsistencies. Nothing can be designated till it is in some measure defined as to its mental whereabouts, till existence, and existence of some order, is, or may be, referred to it. Nor are we at liberty to designate this unapproachable thing as the Unknown, conspicuously emphasizing it with a capital, if we are not willing to imply personality, or pre-eminence of some sort. This same Unknown is spoken of by Mr. Fiske as "Omnipresent Power," a "First Cause," "the God of the Christian," "Deity," an "Inscrutable Power" that may be "regarded as quasi-psychical," "the infinite and eternal Sustainer of the universe," "a Divine Power, that cannot be identified with the totality of phenomena," and as "the Divine Power immanent in the Cosmos." Nor is he satisfied with such ascriptions; he says: "The constant element has been, on its intellectual side, the recognition of Deity, and on its emotional side the yearning for closer union with Deity, or for a more complete spiritual life." He unites with the Psalmist in affirming that the heavens declare the glory of God; and is ready to sing, with the saints,

"Nearer, my God, to thee."¹

We explicitly reject any carping at these concessions; they are all right, honorable to head and heart. They do not, however, flow from the principles of the cosmic philosophy, nor are they consistent therewith.

In this language Mr. Fiske is doing furtively and inconsistently what the Christian theist does avowedly; he is dealing with the Infinite not as the Unknowable, but as the Knowable-Unknowable. He is, as his philosophy often compels him to be, confused, when he denies intelligence and volition to God, and yet concedes that his "intimate essence

¹ Cosmic Philosophy, Vol. ii. p. 505.

² Ibid. p. 502.

may conceivably be identifiable with the intimate essence of what we know as mind." Even if intelligence and volition are inclosed, as Mr. Fiske supposes them to be, in force, this constitutes no reason why, in a secondary way, they are not referable to God; unless, forsooth, we are to divorce noumena from their phenomena, as a separable existence, and ascribe the first only to Deity.

To those, however, who regard intelligence and volition as primary and more than equal powers, standing side by side with physical forces, there is not only no difficulty in affirming them of God, they become the chief expression of his character. There are no words of contempt and rejection which Mr. Fiske uses more frequently than "anthropomorphism," "anthropomorphic"; though why it should be worse to be anthropomorphic than to be cosmic, or how a *man* is to be other than anthropomorphic, in some sense settling his own estimates of dignity by his own standards, I am at a loss to understand. How lame a conclusion, then, does he reach, when, drawing to the end of his work, he says: "Provided we bear in mind the symbolic character of our words, we may say that 'God is Spirit,' though we may not say, in the materialistic sense, that 'God is Force.' Such an utterance is, indeed, anthropomorphic. But we are now finding powerful confirmation of the argument elaborated in our Prolegomena, that a positive mode of philosophizing is impracticable, and that we can never get entirely rid of all traces of anthropomorphism."¹ What a deal of travel to reach a point occupied from the beginning by his most intelligent opponents—a position not approachable by a philosophy into which the principles issuing in positivism have so wrought themselves as they have into the cosmic philosophy.

We make but two other secondary points under our second objection. "Personality and infinity are terms expressive of ideas which are mutually incompatible. The pseud-idea 'Infinite Person' is neither more nor less unthinkable than the pseud-idea, 'circular triangle.'"² Personality involves

¹ Cosmic Philosophy, Vol. ii. p. 649.

² Ibid. p. 408.

intelligence and volition, that is, spontaneity in knowing, freedom in executing. Are there, necessarily, any limits to knowledge? Those who affirm that there are ought, to point them out. Are there any limits to the executive and voluntary power by which knowledge is made efficient? If there are such in the nature of the case they are not obvious. But, it may be said, if the elements of personality have no finite measurements, every manifestation of them must have. Granted; but so is each actual moment or manifestation of time finite, while we perfectly understand what is meant by infinite time. Space presents itself to us in parts, and can only be scrutinized by us in parts; yet it remains one infinite whole. What a foolish riddle do we make of the infinite, trying, in the same breath, to concede it and withhold it, to grant it and explain it, under the analogies of the finite.

“Evolution is throughout irreconcilably opposed to the doctrine of creation.”¹ Very well; the measurable forces of which the solar system is composed can neither have been going on from all eternity, nor can they go on to all eternity, unless there is an absolute conservation of them, and a circular movement in their unfolding. The evolutionist is not prepared to make either assertion probable. There is the constant radiation of heat, light into space, and so an apparent loss in the aggregate of forces. This process cannot have gone on from eternity in our system, or that system, so far as force expressing itself in a large class of motions is concerned, would have disappeared. Nor can a system, subjected to such loss, return in its evolutions again and again into itself. It cannot, therefore, under present apparent conditions, have progressed from eternity; since the forces of progress would long ago have been exhausted. That is to say, evolution is unable to suggest conditions, made probable by experience, under which eternal movement is possible, and so is unable to assert the past eternity of force.

Our third objection to the cosmic philosophy is, that it

¹ Cosmic Philosophy, Vol. II. p. 376.

yields no sufficient recognition of life and of the agents involved in the unfolding of lives in the world. Life must become a function or combination of functions, and in no sense an agent, under the doctrine of evolution. Its lines of development and forms must be inclosed, directly or indirectly, in the physical forces which precede it. "The hypothesis of a 'vital principle' is now as completely discarded as the hypothesis of phlogiston in chemistry. The crystal of quartz has a shape which is the result of the mutual attractions and repulsions of its molecules; and the dog has a shape which is ultimately to be explained in the same way, save that in this case the process has been immeasurably more complex and indirect."¹ This is the out-thrust of assertion which is, by direction and indirection, to be worn down again to much the old level of thought. The crystalline attractions are found much more manageable than the canine ones; these become so numerous and recondite that the philosophy knows not where to locate them, or how to express them, and is compelled to invoke the aid of conceptions which we should call metaphysical, in the meaning which Mr. Fiske attaches to the word.

"But it must be remembered that, in the case of an organism, the direction of these forces depends, in a way not yet explained, upon the directions in which they have been exerted by ancestral organisms. In other words, a set of definite tendencies has been acquired during the slow evolution of organic life."² "It is, at the same time, true that the ultimate mystery—the association of vital properties with the enormously-complex chemical compound known as protoplasm—remains unsolved."³ "Facts of this kind point to the conclusion that an inherent capacity for adaptive changes is possessed by all organisms. And by the phrase 'inherent capacity' I do not mean to insinuate the existence of any *occulta vis*, or metaphysical 'innate power,' of which no scientific account is to be given in terms of matter and

¹ Cosmic Philosophy, Vol. I. p. 422.

² Ibid. p. 430.

³ Ibid. p. 434.

motion."¹ Certainly not; yet it is a little difficult to draw a sharp line between "inherent capacity" and "innate power"; the intention of an author hardly suffices for this purpose. "In every living body there is a tendency towards secondary alterations of this nature,"² — that is, of a nature to anticipate farther external action.

Thus we have a "vital principle" formally and contemptuously discarded, and such phrases put in its place as "a set of definite tendencies," "the association of vital properties," "an inherent capacity for adaptive changes," "a tendency toward secondary alterations." This fact would be of small moment, if it were a convenience, or a slip of language; it is of great moment, when it is a forced concession to an inscrutable power which Mr. Spencer and Mr. Fiske can no more dispense with than their opponents, nor, no more than they, express in "terms of matter and motion." The definition of life given by this school implies such a pervasive, shaping power. "Life, including also intelligence as the highest known manifestation of life, is the continuous establishment of relations within the organism in correspondence with relations existing or arising in the environment."³ As the diverse parts of a complex organism in a complex environment are subjected to the most various influences, some correspondingly broad power is requisite to unite and harmonize the results. The living body must not act by portions, but in some way as a whole. The restoration of injured members, inheritance, atavism, must find reference to something beyond the general properties of molecules. The body of the living being as a combination, the transmission of its tendencies, the sudden intervention of very remote and subtle influences — these are the facts that seek for exposition; and that the scientists who reject vital power can neither evade them nor refer them with any new insight is made sufficiently plain by these "tendencies" of Mr. Fiske, by the "gemmules" of Mr. Darwin, by the "physiological units" of Mr. Spencer.

¹ *Cosmic Philosophy*, Vol. ii. p. 56.
Vol. XXXIII. No. 132.

² *Ibid.* p. 69.
81

³ *Ibid.* p. 67.

As to the origin and development of life, the cosmic philosophy avails itself, of course, of the labors of Mr. Darwin, carrying them to their extreme limits. This theory receives a concise summation, in its most available form, by Mr. Fiske: "The process of organic evolution may, therefore, be summarized as follows :

Equilibration	{ External	{ Direct	}	Adaptation.	
		{ Indirect			}
	{ Internal	{ Direct	}	}	
		{ Indirect			}
			Use and Disuse." ¹		

That the activities and conditions of activity represented in this statement cover real and important truths, that they are the valuable conclusions of memorable labors, few are disposed to deny; that they are a sufficient exposition of the facts to which, under the theory of evolution, they are applied, is far from plain.

Take them in order. Adaptation is the first and the oldest and the least serviceable of them. If we mean by it known physical forces without the organism, acting on known forces within it, and so securing in an intelligible way a readjustment; if we exclude all tendencies—as of right we ought to—not expressible "in terms of matter and motion,"—we thank Mr. Fiske for the phrase,—the organic changes we can refer to adaptation will be most meagre, scarcely a sensible increment to the confirmatory facts of evolution.

Natural selection, strictly so called, only disposes of superfluous, unfortunate varieties; it explains the presence of none of them. It must be accompanied with the supplementary statement of a general tendency in organisms to vary, referable to the changing states of the environment. The theory may be entitled to this statement as a simple fact. Internal, organic forces are open to the influence of a constantly variable environment; they respond to it by slight changes in many directions, known as varieties. Decisive changes, however, in definite directions, a tendency to change

¹ Cosmic Philosophy, Vol. ii. p. 65.

in any direction, must have a more precise explanation than the above general statement. An incalculable liability to slight variations in all directions, external conditions that will favor a portion and repress a portion of the movement, — these, excluding any and every occult tendency, are the terms with which natural selection starts. It will explain many facts, but fails to explain many — the order, for instance, of the animal kingdom, the steady, rapid development of the vertebrates, the symmetry in which their own classes are united, and that central evolution by which they throw into subordination and harmony the inferior forms of life. Natural selection starts with a chance-force, or, in reference to any ultimate plan, a most accidental complexus of forces, and out of them eliminates order. That order is not sufficiently explained. (a) The chances to be run through with of disorder are too many; they are practically infinite. (b) The process of natural selection is not decisive and quick enough in its operation to do the work assigned it. (c) There is still a latent assumption — a probable, but an unexpounded term, in one of the two premises; to wit, in that which refers slight organic development to external forces. Such a fact, if it be conceded as one of universal application, has not been, and cannot be, expressed in “terms of matter and motion.” Mechanical force adds itself as mechanical force to mechanical forces; chemical forces it cannot affect in the same direct way. Here its mode of operation requires new definition. No more are we at liberty to assume that the forces of the environment will work organic, rather than inorganic, changes, without a more precise defining of their mode of operation. If it be said that they *do* work such organic development, it is possible to refer — nay, difficult not to refer — the change to a *tendency*, — an occult force, — since there are no visible forces to which such changes can be traced, no known methods of transfer. Thus we have again an agency not expressed “in terms of matter and motion.”

The third agent in vital evolution is heredity. This term

the evolutionist has no right to as a known quantity in his equation. It has not been gotten, in its methods of causation, out of the region of "unverifiable hypotheses"; it has not been expressed in "terms of matter and motion."

The same is true of the fourth agency — correlation of growth. It, like inheritance, is a fact, but an unexplained one — one not resolved into equivalents of known forces.

Use-and-disuse, brought forward as an agency to sustain evolution, is burdened in the same way. Use, in the limb of the animal, does quicken circulation, and increased circulation is attended with increased nourishment. But these facts are not mere terms, plain "terms of matter and motion." That use quickens circulation — for instance, the use of the brain — cannot be expressed in mechanical and chemical forces alone, nor the additional nutrition incident to such circulation be put in formulae of matter and motion merely. An occult term is still present. If every occult term, every assumption is excluded, the facts of evolution in the region of life almost or quite disappear. They now seem so many, because the mechanical element in a complex process is brought to the foreground, and the vital element passed by, or inadequately referred, or covered up by a new pass-word.

We think, then, that it can fairly be said that the theory of evolution, when dealing with real forces, often pushes them far beyond their just application; is signally open to the accusation of putting the part, and sometimes a very small part, for the whole. This is especially to be objected to because the theory frequently requires the proof offered in its largest range, while within the range which a sober, cautious criticism assigns it, it is of little avail. Evolution is not a theory which can dispense in part with the principles, the laws, from which it is deduced, and retain for its purposes their remaining power. To fail at one point is, for this view, complete failure. It is not the presence of evolution in the world that is under discussion, but its absolute sufficiency to account for all facts. When, therefore, its

advocates state the laws needed for its support in an unqualified form, — as in the case of “a vital principle,” — and afterward fall back in part from their first position, modifying their results to suit the stubbornness of facts, they fail of their primary purpose. Most of the principles stated by evolutionists will be accepted, within a limited field, as valuable explanations of the facts; the objections arise only when these principles are linked together as a net-work of laws sufficient to cover the whole ground; and to this result the slightest success in attack and the slightest concession in defence are fatal.

Natural selection explains readily the prevalence of one species and the extinction of another; but if it fails to make clear why such and such varieties have appeared, and these only, it ceases to do the work the evolutionist assigns it. Some of the beauty found in the vegetable kingdom may be explained as a means of attracting insects to flowers; but what purpose does this fact subserve, if the great mass of beauty in form and color remains unaccounted for? Sexual selection may cover a few phenomena in the animal kingdom; but its aesthetical facts are hardly entered on, much less exhausted, by this explanation. The theory expounds so little that, in reference to evolution, it seems rather to weaken than to strengthen it. Much the same is true of that mimicry by which insects are made to resemble inanimate objects, and so protected. From one point of view, it gives aid; under natural selection here, undoubtedly, would be a self-maintaining variation. But when we reflect on the number of points involved in such a resemblance, and the very great improbability that they should concur under purely accidental causes, we have an antagonistic consideration quite as weighty as the favorable one.

Mr. Wallace brings forward an important consideration, when, in the case of man, he carries natural selection over from the body to the mind, and so lays the foundations of intellectual development; yet this view, as a complete theory for all the facts, is evidently pressed too far. Physical

advantages, physical prowess have not even yet quite lost their value, and till the invention of gunpowder were scarcely secondary to intellectual gifts. If the first could not avail without the second, neither could the second without the first. Most plain is it that in a savage state physical qualities still remain of great importance — sufficient importance to be acted on by natural selection. It may well be doubted whether the dividing line, on the theory of evolution, can be drawn so decidedly between man and the lower animals, and natural selection be set to tasks so distinct on either side of it. The truth would seem to be, that physical and intellectual qualities must both be regarded from the beginning by natural selection, with a balance increasingly favorable to the latter.

Mr. Fiske's most valued contribution to evolution consists in pointing out the relation of infancy to increased intelligence, on the one side, and the family, on the other. Without shading, — and if the shading be well done the prominence of these transitions and the causative force of the presiding principles in each are greatly reduced, — the steps of transfer are these: The intellectual element assumes such importance in man that natural selection lays hold of it to the neglect of physical variation. This intelligence involves a slower individual development; hence prolonged infancy and more parental care; this care constructs and consolidates the family; the family leads to society and the state; and these secure civilization. There can be no doubt that the three facts, increased intelligence, prolonged infancy, and the unity of the household, are closely associated, and mutually sustain each other. It is more doubtful whether there is a linear causal succession between them in the order mentioned; and still more doubtful whether, *under evolution*, such a connection is probable. It is not evident that intelligence, if intelligence is in large part — in much the greater part — a sub-conscious cerebral development, would call for the prolonged training of infancy. It certainly does, if intelligence as a practical possession is the product of faculties called

forth by use and compacted by habit in the individual. But if this work, as Mr. Fiske is ready to affirm in other connections, can be done in the ancestor, and the most necessary convictions and processes of mind be made ready to order, the necessity of the prolonged training of infancy disappears. Thus the most sagacious insects, with this type of sub-conscious intelligence, can enter rapidly on their activities. Infancy is a necessary incident only to training which is conscious and voluntary; lose sight of these two elements, and the connection disappears.

A kindred difficulty arises in uniting infancy, as an efficient condition in the order of progress, to the family. If the intelligence which is to issue in infancy is sub-conscious, then infancy does not follow from it, but the reverse rather; and if it is conscious training, then the family must precede the intelligence, rather than the intelligence the family. It would be necessary, at least, that the three conditions should be co-ordinate, and sustain each other; that they should be parts of a new method. Infancy alone would constitute a burden and a danger, and could not well exist antecedent to the family as a means of organizing it; since natural selection would tend to repress it. A weakness and a hinderance would be put first; while the advantages to be developed from it would be remote—most of them very remote. Such an order would not be consistent with natural selection. The truth seems to us to be that enlarged intelligence, as included in and the product of voluntary activity, demands both infancy and the family to sustain it; intelligence is the final cause, rather than the efficient cause.

Organic race-growth, as giving the conditions of individual life, is justly insisted on, but at the same time pushed to a position it cannot attain. It is absolutely essential to evolution, since the individual is closely conditioned to the stock from which he springs; to divorce him in the least is to loosen him from the only laws which can control him. From this relation springs the theorem of Mr. Fiske: "The amount of intellectual progress achieved since man became human

far exceeds that which was needed to transfer him from apehood to manhood.”¹

Yet how will this assertion and the underlying dependence of the individual on the organic race-development bear the test of facts? How many individuals miss the fruits, in the most cultivated races, of this stock-force! How single individuals, as in our colored population, are made to travel very quickly a large share of the space between the lowest and the highest races! How races, as in the case of the Sandwich Islanders, are carried rapidly over considerable portions of it! How individuals in all races rise far above the race-grade! How, in a case like that of Laura Bridgeman, a singular personal development—singular in its methods of initiation and in its steps of progress, for which unconscious race-cerebration could have done little or nothing—institutes and completes itself almost at once by its own law. Let Mr. Fiske take the equivalent half,—the space between apehood and manhood—a space of organic instead of intellectual development,—and try his hand at filling in any considerable, nay, any observable, portion of it. The race-element is much, but is not what evolution must needs make it to be. The exaggeration of the estimate evinces the weakness of the theory.

We refer to one other instance in which the same undue weight is given to a real, but partial influence. The moral sense is referred to social growth; the weakening of selfishness and the strengthening of sympathy incident thereto, the “gradual supplanting of *egoism* by *altruism*.” Conscience is not the basis on which this process proceeds, but the product of it. The power does not institute the process; but the process deposits the power. It certainly would and does develop the power, and hence the difficulty in showing that it does not create it—that conscience is not a transmitted susceptibility to public opinion, speaking, correctly or otherwise, in behalf of the public weal. Here, again, we are dealing with real causes. Are they sufficient causes?

¹ Cosmic Philosophy, Vol. ii. p. 309.

Of what public opinion can do there are several examples. Fashion is enforced by public sentiment, and so enforced that very many would more quickly violate moral laws than its laws. Honor, in various countries and in various classes, is another instance of a very exacting public sentiment. But in neither of these cases are we in danger of mistaking the sentiment involved for one of morals. The moral sentiment, on the other hand, is constantly asserting itself as against these public enforcements, and in many instances overcomes them. Moreover, those most susceptible to public opinion are those least ruled by conscience; and the notable victories of conscience have been over communities, over conjoint, consolidated, hereditary feeling, in behalf of individual judgment. The "idiosyncratic conscience" is the conscience of the world, and one more or less steadily in opposition; how shall its force therefore be referable to the many? Can society give to its members, develop in them as the *esprit* of its sentiment, a higher morality than it possesses? Yet how evident is it that the individual always brings an advanced moral truth to society, and not society to the individual. Take the case of fashion,—a true, pure product of social influence,—and how exactly is the reverse true; the many constrain the one. In morals, the one constrains the many.

We pass to a second general indictment of this cosmic philosophy—that its generalizations are largely illusory; being the descriptions of results, rather than the disclosure of new laws or new forces. Spencer's definition of evolution is: "Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation."¹

This as a definition, a more definite statement of a process, certainly has value; yet it discloses no new force, nor any fresh combination of forces; it merely puts a more exact,

¹ First Principles, p. 396.

in place of a less exact, conception of what is accomplished by the entire aggregate of physical forces in the cosmos. As a definition it pays for its generality of course by leaving each particular process to be inquired into and understood under its own features. It is the most general description of the results of the combination of all physical laws and forces; discloses no new force, no new combination of forces, no new operation of forces; nor does it enable us, in any particular instance, to understand any fact of evolution, otherwise than by a renewed inquiry into the precise forces there operative and their laws of operation. This formula, regarded as a law, or used as itself serving to explain anything, would merely confound and arrest inquiry. It expounds no one fact whatever. In this respect it is to be wholly distinguished from a statement of a real law, like that of gravitation. Moreover, as applied to intellectual and to social evolution, it can only express them in their incidents, not in their substance, their distinctive characteristics.

Mr. Fiske's (which is also Mr. Spencer's) definition of life already given is open to the same remarks. "Life — including also intelligence as the highest known manifestation of life — is the continuous establishment of relations within the organism in correspondence with relations existing or arising in the environment." This is the most general possible description of innumerable and most variable processes, all of which remain to be learned and separately explained as we are able. By such definitions nothing is discovered; the law of no single process is given, but only a general feature of many processes is rendered in descriptive fashion.

The same is true when the progress of a community is defined: "A continuous establishment of inner relations in conformity to outer relations."¹ The definition owes its similarity to that of life to the figurative force of the words — to a resemblance, and not to an identity, of facts. Society and life remain alike to be studied, their activities specified and measured, as much after as previous to such a definition.

¹ Cosmic Philosophy, Vol. ii. p. 212.

In short, this philosophy of evolution is one of descriptive generalizations, not of valid laws, and frequently reaches its unity of formulæ by consolidating figurative and literal statements. One might devise a general, descriptive formula for all machines. It would tell us nothing about any one machine — its purposes, mode of operation, or method of construction. It is an interesting fact that man's only agency in production is a transfer of material in place; but it leaves production as a branch of political economy precisely where it was before. There is no law in the statement, but an incident of many laws.

When Mr. Spencer and Mr. Fiske speak of certain events that must follow under these formulæ, unless they make the case specific, and designate special forces as about, under given circumstances, to produce the result, — and this they do not always do, — they are securing their imperative, their necessity, from final, not from efficient causes. The formula of evolution necessitates nothing; it only states a very general order that will be followed, provided there are known forces ready to follow it, under conditions that allow them to follow it. When these gentlemen say that there *must* be this and that re-distribution of forces, they can only mean that there must be *if there is to be progress*; that is, progress, evolution, as a final cause involves it; or they must mean that they are able to designate the existing forces and conditions which, under their own laws, will work out these distributions. They do not keep in view how powerless by themselves their formulæ are, and cast back upon them a necessity derived from final causes, — a supposititious necessity, — when they would seem to be speaking of one referable to efficient causes.

A third general objection which we make to the method of the cosmic philosophy is, that it not unfrequently involves explanations that fall little short of legerdemain. This arises from the identification of physical, vital, intellectual, social facts in their law, and then using words and methods of reasoning directly applicable to the first only as sufficient in the remaining

three to constitute a valid exposition. There is here a double difficulty. The real under-current of truth and imagery which sustains evolution belongs to physical forces. Mr. Spencer and Mr. Fiske frequently express intellectual and social phenomena under their own spiritual or semi-spiritual language, when, to sustain the argument, that language must be translated into "terms of matter and motion." Many do not fully make this transfer, and hence mistake the solutions offered, are not startled as they would be if the facts were put as physical facts under physical phraseology. The opposite difficulty sometimes occurs, which we are now criticising. An explanation is given to a vital or social fact under images incident to mechanical facts and forces, and so becomes pure logodaedaly. This is a very sweeping accusation, and cannot be adequately supported by limited quotations. It, with the previous objection, if correct, greatly reduces the assumed value of the philosophy, and assigns Mr. Spencer's labors quite another position than that given them by Mr. Fiske. Simply by way of illustrating our meaning, we offer a few examples :

"That variations must occur, and that they must ever tend both directly and indirectly towards adaptive modifications, are conclusions deducible from first principles, apart from any detailed interpretation like the above. That the state of homogeneity is an unstable state we have found to be a general truth. Each species must pass from the uniform into the more or less multiform, unless the incidence of external forces is exactly the same for all its members ; which it never can be. Through the process of differentiation and integration, which of necessity brings together, or keeps together, like individuals, and separates unlike ones from them, there must nevertheless be maintained a tolerably uniform species so long as there continues a tolerably uniform set of conditions in which it may exist. Or, passing from these derivative laws to the ultimate law, we see that variation is necessitated by the persistence of force. The members of a species inhabiting any area cannot be

subject to like aggregates of forces over the whole of that area. And if in different parts of the area different kinds or amounts or combinations of forces act on them, they cannot but become different in themselves and in their progeny. To say otherwise, is to say that differences in the forces will not produce differences in the effects, which is to deny the persistence of force.”¹

This is a fair specimen of a large amount of reasoning in Spencer's works, and we must pronounce it logodaedaly — word-building. Confine attention to the last paragraph. If the proof here offered is good for anything as proof, it is absolute proof. It turns on strictly general principles; and if the conclusion is involved in those principles nothing more is required. We are at a loss to understand how any one — much less, those who base their philosophy on experience — should have the hardihood to assert the sufficiency of so purely an *a priori* demonstration. But if this proof is not demonstration, it is nothing; it is only what we have characterized it as being — a legerdemain of words. Is it involved in the persistence of force and in a changeable environment that organic products should vary and propagate their varieties? Certainly not. Prior to experience we cannot say on what terms the forces of the environment will be transmuted into those of the organism — whether they will appear in it as new organic adaptations, or as the destruction and waste of old ones, or as their enlarged exalted action in previous directions. Still less can we say whether, if these external conditions are productive of new organic combinations, the combinations will pass by inheritance. It is a thing of observation to learn what forces modify structure, and what modifications of structure are likely to be transmitted. Forces may remain persistent and variable in the environment, and express themselves, as the majority of them do, by the reduction or increase of activity in the directions already established by the organism. But the case needs no argument. If Mr. Spencer's proof were true,

¹ Principles of Biology, Vol. i. p. 271.

every organism would be in a condition of perpetual flux ; while many organisms have remained stationary, or relatively so, for the longest periods. If one may resist change, all may, so far as any such general argument is concerned. Such combinations of words are legerdemain. They are sustained in the mind by an image of mechanical forces which must combine in the way indicated, with a change of results in a definite line, and directly proportioned to the interfering agencies.

This kind of reasoning pervades Mr. Spencer's works, and Mr. Fiske's as well, and is applied unhesitatingly to vital and intellectual development. "It is a corollary from the persistence of force, 'that in the actions and reactions of force and matter, an unlikeness in either of the factors necessitates an unlikeness in the effects.' When the different portions of any homogeneous aggregate are exposed to the action of unlike forces, or to unequal intensities of the same force, they are of necessity unequally affected thereby. Between the differently exposed parts there arise structural differences, entailing differences of property and function. . . . Such unlikeness cannot but arise ; differentiation must needs take place ; because it is impossible for all the parts of any aggregate to be similarly conditioned with reference to any incident force."¹

The objections to this kind of reasoning are: (a) It explains no specific result. Each such result must be definitely referred to specified forces united and interacting under given conditions. (b) It overlooks the various ways in which forces may expend themselves besides the ways alleged, and that the moment we pass from mechanical force, forces are convertible, in each instance, in peculiar ways, to be learned only by the most exact observation. (c) This method would lead from observation to lines of *a priori* reasoning increasingly futile. (d) It amounts to very little more than the truism, Every event must have a cause, and these causes are somewhere in the conditions. We should

¹ Cosmic Philosophy, Vol. i. 353.

be led to explain facts in this wise. Various forces are present; they are persistent; they are in action; every action involves a second; actions and reactions establish relations; these increase in number; hence, at length, a world, a solar system, a universe.

All that Mr. Spencer does shows the futility of this method by which he pieces out the remainder — by which he completes an inductive with a deductive argument. Either the induction is not needed, or it cannot be finished by deduction, and the effort to do it is a jugglery of words. It is strange that philosophers who so inveigh against the subtleties of mediaeval logic should fall into a like method; for we must insist that this is a method quite like the mediaeval.

We have done scanty justice to our subject; but we have had scanty opportunity. Much that we have said may seem poorly supported; but it may none the less suffice to direct attention to important points.