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another for Apollos, another for Luke, we may well repeat to them the words of the Apostle himself: "While one saith I am of Paul, and another I am of Apollos, are ye not carnal? Who then is Paul? and who is Apollos? it is God that giveth the increase."

©

ARTICLE V.

THE NATURAL THEOLOGY OF SOCIAL SCIENCE¹

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THE argument for the existence of God is exceedingly simple. It involves but one premise, magnificent as this is; but one inference, great as this is. The mind passes from that broad array of facts—that power, skill, and beauty which the universe presents—up to the Creator, the Former of all. This leap of the mind is performed, like all its reasoning, by its own native strength, under the guidance and impulse of ideas inherent in it. As force, design, adaptation, are universal, discoverable by every one everywhere, this conclusion of the existence of a spiritual, supernatural agency has entered every rational mind; robbed, indeed, among the lower races, of its true breadth and import,—passing through Polytheism into mere Fetichism; and among the higher races, sometimes partially expelled again by the tricks of philosophy and of science. Nevertheless the universality and stubbornness of the conclusion show the inherent and necessary character of the ideas which lead to it, and so far prove its justness.

The chief and most conspicuous of these are, cause and effect, and the infinite. Attention has usually been directed to the first to the oversight of the second, and thus the argument has been inadequately grounded and wrongly presented.

¹ This is the first Article of a series on the same subject.

The polytheist reasons from cause and effect, and thus establishes many separate deities over distinct provinces of action. If, with the Greek, he struggles up to a supreme God, it is with very partial success, and an inadequate grasp of the notion. Many of the arguments for the existence of the true God are logically vitiated by the same error. We are taught to arrive at his being from the effects about us which require the interpretation of a cause. The proof thus presented overlooks both the nature of a cause, and the impossibility of arresting the line of reasoning it opens.

The mind will, indeed, often reach and tenaciously hold a just conclusion from partial or from erroneous premises. That which supports its steps may lie hidden beneath the surface, and it fails theoretically to hit the exact points of rest, on which, as pivots, the movement is made. We walk before we understand how we walk; we reason safely before we can analyze our reasonings correctly. Yet, when the occasion for the analysis arises, it is important that it be accurate, or we shall by it cast discredit on our most constant and needful conclusions. We often reject in philosophy our best wisdom, simply because it is more profound than our expositions of it. Revelation is destroyed by interpretation. Let us then expose the two defects referred to.

What is a cause in one relation is an effect in another. What occasions the phenomena which follow it is occasioned by the phenomena that precede it. The ball on the billiard table moves because it has received the stroke of the rod, and that motion, which is itself an effect, is ready to become a cause of motion in the ball lying in its line. That which looking backward is an effect, looking forward is a cause. Cause and effect are the positive and passive poles of the same thing, and a chain which followed downward is a series of effects, followed upward becomes a series of causes. A cause, by the very fact of its being a cause, is instantly overlaid and expressed by an effect. The one is the other coming to the surface, revealing itself, — as the sensations it occasions constitute our notion of matter. Effects are that by

which we know causes. The one is interior, the other exterior and phenomenal; the two are inseparable.

The cause, therefore, strictly so-called, is level with the effect; equal to it, and no greater; of the same nature with it, and in all respects measured and defined by it. This notion of cause and effect is one by which we work our way from point to point amid material things and forces, not one by which we can in the least rise above them. However far back we may push with it, we are on the same dead level, enveloped by the same finite and material forces, pursuing through one more phase of development that force which, for aught that we can thus see or say, may be capable of infinite modifications. Indeed, many so believe, and regard matter with the forces which play in and through it, as eternal.

This partial presentation of the argument, resting on causation alone for the proof of the being of a God, is the more unfortunate as, in the progress of science, the notion of cause and effect has been more and more severely developed, and the thoughtful mind assured that there is, in all the play of physical phenomena through indefinite periods, no gain or loss; that if the effects are gathered up they exactly exhaust the cause, and no more, and are thus able to continue it perfectly in further effects. The hammer which strikes the rock and loses its motion, calls forth an equivalent in the vibration of particles occasioned and the heat elicited, as much as the bat whose blow is expended on a ball made to spin through the air. Thus in all directions along the track of science there has been a grading down of causes. Not only have the mysterious and monstrous been brought low, there has also been a reduction of all causes to the exact level of the effects, and that past, in which the imagination has so easily found salient points from which to pass over into the supernatural, reveals to science, under all changes of form and appearance, exactly the same characteristics as the present. The current of forces up which this inquiry after causes leads us to direct our boat, is everywhere the same steady, tranquil stream, giving to our keel, so far as we see fit or are able to explore

it, the same waters in ceaseless flow. Floating on the river itself we never reach a supernatural source. The most we can do is to discover some loss of volume and breadth as we press upward, and much of this even, science shows to be a deceptive transfer and modification of forces. The Nile, unexplored, may be thought to descend from heaven, or gush in full volume from the earth; but exploration divests it of its mythical character, and leaves it like the other rivers of the world.

The simple notion, then, of cause and effect prompts scientific inquiry, but cannot lift us beyond the conditions of such inquiry — the steady flow of natural forces. If points of commencement are thus really reached, they are only points of arrest, and we must have another idea, another clew given by the rational mind, before we can gather up and unite all these lines of force in the hand of the Almighty.

But not only does each cause imply a previous one, but also its perfect equality with the effect. We cannot infer more in the cause than is revealed in the effect. The conception requires the perfect equality of the two, and we break the line of argument as much by going beyond the just inference, and finding more in the cause than we have found in the effect, as we should by falling short of it, and accepting the phenomena without a cause, or with a partial cause incapable of their production. This essential nature of the idea cannot be disregarded or transcended in reasoning from effect to cause without rendering the conclusion invalid by the virtual invalidation of the idea on which it rests. The infinite attributes of God cannot, therefore, by mere causation, be proved from finite effects, however great, even if we are to allow the sudden arrest in a personal being of the argument by which we ascend.

In reasoning from the universe as a finite effect to the Creator as an infinite cause, we do not merely enlarge the cause; we increase it by that unmeasured quantity which lies between the largest finite product and infinite power. But it may be asked: Can we not infer the presence of more

power in a free agent than the work before us actually requires? Doubtless; but not under the notion of cause and effect. On the other hand, so far as this idea has been allowed to enter the domain of liberty, and been brought to explain human action, that action has been looked on as the only possible result of the conditions under which it has occurred, and thus as a complete exponent of the forces then and there present. We have, by this reasoning, been cut off from that amplification of the power of a personal agent by which we infer the possibility of other and more products of action than those actually exhibited. With this notion as the basis of reasoning, we are only able to say of the moral agent as we may of the physical cause, that under other circumstances it might exhibit different results.

The weakness of this proof of a Divine Being, its want of precision, are seen in the language it employs. It infers from certain effects a cause, from this cause a second cause, till, weary of pursuing the inference, it cuts it short in what it calls a first cause, which, taken as a true cause with no further explanation, is a contradiction in terms—an overthrow and denial of the process by which it itself has been reached. There can be no first cause, since on the level of cause and effect merely every cause must itself be an effect. These words are applicable to the same thing viewed in different relations, as connected upward or downward. That which is strictly first must be more than a cause. To suddenly turn a cause into a first cause, is to make of it instantly, by a mere trick of words, a new and transcendent thing—is to call the link of a chain a staple, and then suspend from it the otherwise interminable progression. The question reverts: How came our last link to be a staple? How can we, pass from link to link, reasoning that one link always implies another, yet find so opportunely a support of a new and different kind on which to hang them all. The necessity, we understand, but not the method by which it is met. This seems to us a slip of the argument. We are carried into the obscure distance, and a new idea suddenly passed upon us as

if it were in lawful continuation of the process thus far pursued. There is due, under the argument, the thousandth or ten thousandth cause, and there is adroitly slipped in its place the first-cause, a totally distinct idea, transcendent in all its proportions. If a first-cause means a cause, our argument has not reached its conclusion ; if it means an infinite God, we have smuggled in the notion by giving it a false and inferior label. The Creator thus comes to his own universe only as part and parcel of it.

There frequently arises in connection with this argument thus handled a fatal degradation of Deity. The adjective "first," instead of lifting the notion of a cause up to the true throne of the Infinite, is dragged down by it to some intermediate ground : God ceases to be above the universe, and the entire source of it. Thus Plato could believe, and philosophers of our own day can believe, in God and also in the eternity of matter—in this most weighty chain of causes as not lodged in his hand. The notion of a Deity is called in to explain the order and beauty of the universe, and not its existence. True to this line of argument, the cause is measured by the effect, and God is left a limited agent, working in and on that which he has not created.

So, too, we hear those who would be startled at the assertion of the independent existence of matter, speaking of a nature of things as limiting God's action, and constituting laws external to him ; of geometric principles and of right as assigning superior rules to his rational and moral nature. This conception is that of a necessary framework of order found by Deity, anticipating and giving conditions to his action. Thus God ceases again to be the Absolute, in himself the complete and only source alike of things, events, and their rational forms. God as the supreme, uncreated reason finds every law of thought, of rational action in himself, and under these laws of his own mind, as frameworks of order, he constructs a universe. That nature of things which we find, which rules our thoughts and actions, is to God his own nature. Geometric principles arising from the nature of

thought, of mind, do not flow in upon God from matter, but out from God on matter, to and through his universe, receiving its fixed, necessary constitution from those rational powers which shaped it. The immutable foundations of nature are not laid in itself, but rest back on the rock — the Rock of Ages. Mind is the source of law to nature, not nature to mind.

For these two reasons, then, the idea of cause is not the ground of a satisfactory argument for the existence of God. There is an illegitimate substitution of one idea for another — a first-cause for a cause; and there is an inference to a cause broader than the entire aggregate of effects. The notion of cause has an exceedingly important and definite work to do, and it is, therefore, the more liable to be carried beyond its own province. Introduced into the realm of freedom, of spiritual action, it has brought with it nothing but confusion. Motives are not causes, nor are volitions effects. Till the first material result in nerve and muscle is reached, we have no cause proper; and this cause we at once find true to the notion, determining the effects which follow it, and determined by the conditions which precede it. Choice explains volition by its own independent, explanatory powers, with no aid whatsoever derived from the exposition of effects by their appropriate causes. So, too, if we go with the simple idea of cause, ranging up and down the material universe, outside that universe in search of a Creator, we shall fail, either by overpassing our premises in our conclusions, or by dragging down our conclusions, in whole or in part, to our premises, putting them under the fatal lock of our materialistic reasonings.

What, then, is not merely the practically just, but the theoretically correct, the safe form of argument for the existence of God? Explanation in all cases arises under some idea native to the mind. The impulse to know in any given case comes from the presence of an idea; and the satisfaction of knowing, from including the phenomena under the intuitive idea appropriate to them. An event is mentioned in our hearing; we find ourselves prompted to make several in-

quiries concerning it. Under the idea of time we wish to know when it occurred ; under that of space, where it happened ; and under that of cause, the relation in which it stood to previous events. The impulse to inquire arises from these ideas, and the pleasure of knowledge is due to the reference of the facts in period, place, and causation under them. The rumor of a crime agitates the popular mind. Curiosity is put at rest by learning that it was committed yesterday, at nine o'clock in the evening, in a designated house in Ann Street, Boston, by a specified person, for reasons given. I see one carried by wounded, and am told that he was injured by the fall of a brick in passing from Washington to Court Street. Curiosity is again satisfied. The loosened brick is referable to the gale of wind, while the blowing of the wind is one of those familiar facts which I am content to leave unexplained, or am able to refer with more or less distinctness to general laws.

Other notions furnish kindred explanations ; that of freedom to a capricious choice ; that of beauty to the admiration bestowed ; that of right, to the sense of obligation expressed and to the self-denial incurred.

Thus each original, regulative idea brings to some class of facts a solution in which the mind rests, and without which it will not rest. Among these ideas is that of the Infinite, in its full, personal form of unmeasured wisdom and perfect power — of the Almighty. That such a notion is present to the mind, we need no other proof than the vexation and denial it has brought to philosophy. It has been to all sensational, empirical schools of thought a Bancho's ghost, that would not down ; that has disappeared at one point only to reappear at another with new alarm and terror ; that has been denied to philosophy to be reclaimed for faith, and has vexed and worried the intellectual eye with proportions it could not measure, and yet with a substance and presence it could not dispute. This veritable idea, appearing ever in the experience of man, often, indeed, under limitations too narrow, in vague, disguised semblance, rather than in full

valid form ; rising always in the field of speculation and spiritual thought in one application or another ; now as the grand abyss of space in which all things lie cradled ; now, as the unmeasured flow of time overstretching on either side the current of events ; now, as that boundless, personal, independent Power—which laps in its strength the strength of all besides : this original idea has, too, its office of explanation, its stroke of light, and gives the mind rest where rest may not otherwise be found.

The universe as a whole — for the mind finds it made up of parts and periods, definite and measurable, bewildering indeed, by amplitude, but nowhere transcending the simplest coherence of succession ; in kind like the phenomena of an hour or the workmanship of a single orb, — this universe grasped in its completeness, its first hour travelled back to by the unbroken flight of the imagination, its utmost border reached across the continuous though indefinite stretch of intervening spaces, calls for explanation ; and this explanation the idea of the Almighty is alone able to furnish. For this very purpose is it present to the mind, and herein it finds play, affording the final bourne, the last repose of inquiry.

The infinite, as a simple idea, is applicable to other objects besides God ; when we affirm it of his attributes, when we say *the* Infinite, as if he alone were the centre and source of infinity, we take from it its abstract character, unite it with other regulative ideas, as that of liberty, and give it a personal, concrete existence. It is this infinite — the Infinite One — who stands as the adequate source of the universe ; and we give this prominence to the fact of infinity because it is the new and peculiar fact which enables this Being, this Person, to gather and hold all things in himself. The other notions present are not those which impart this breadth of explanation, though indeed requisite to it. It is by this union of the infinite and the personal in God that the idea becomes so powerful an intellectual solvent.

There is between this notion of the Infinite and that of a simple cause a difference in office as great as in intrinsic

character. A cause is to an effect what, in the river, the section above is to the section immediately below it, while the infinite is the fountains fed from within themselves, whence all these waters flow. The river as a whole requires the explanation of many springs which maintain it, while all the parts of it are understood by their connection with adjacent portions. What the notion of sequence, continuity, is to the stream, the idea of causation is to the current of events. It, indeed, prompts us to push our inquiries further and further back, but furnishes us neither a motive nor a method of arresting the movement; this is the office of quite another idea. Under the impulse, which the inquiry into causes gives, we cannot, indeed, cast anchor; we must sail by day and sail by night out toward the dim horizon; yet we carry all our conclusions with us, we gather safely on ship-board our store of new discoveries, we pay out our cable of valid connections behind us, and feel no restless yearnings for some final and transcendent position not realized. In short, we have the complacency and the meagre range of positive philosophy; we are content to scatter the mystery for an eye-shot ahead, and keep in telegraphic connection with the admiring throng on shore. With the one idea of causation this is all the mind wishes to do, is able to do. But there is with us the means, and therefore the motives, for a more profound and comprehensive inquiry. The mind is perpetually leaving the point of discovery actually reached, lifting itself, like a bird of passage, high in air, high in contemplation, till the physical universe, with no complete exploration of its confines is yet seen to round off like a globe before it, a definite presentation of that Infinite Power which contains it. We may strive to call back the mind from this its native, inevitable flight, as the trained hawk to its perch, to compel it to hunt and owl at our bid alone; we may decry its intrinsic, upward tendencies as superstitious; but not so can the rational impulse of souls be quelled, the thirst of immortality quenched.

The notion of the Infinite is not arrived at as the result

of an argument, as the running out of a conclusion. It is a notion antecedently and intuitively in the mind, necessary for the comprehension of any actual or supposable work of creation, the only possible point of attachment to which explanation can be hung, and leave the mind at peace forever. The justification of the power lies in its necessity and adequacy, that the mind is impelled to the conclusion, and finds rest in it. And this is the exact justification, and the only justification, of any mental process, for instance, that by which we refer thought to mind, or a shattered ball to the force of a blow, or choice to will.

If we contrast comprehension with explanation ; if we say that an event is explained when referred to its immediate source, and that events and forces are comprehended when taken collectively in their complete relation to their first source, then we say, there is no comprehension of the universe without this notion of the Infinite, as there is no explanation of its parts without that of cause ; and that the broader process has the same logical necessity and validity as the narrower one. An ideal effect we explain by an ideal cause, while an actual effect implies an existing cause. So an ideal universe is comprehended by an ideal Creator, while an actual universe looks for its comprehension to an ever-present Jehovah. There is here simply the mind's necessary action in putting this comprehending idea side by side with, and in full explanation of, the acknowledged facts. The mind rests with the two, and only thus can it rest, as when an event is assigned to a period, a transaction to a place. The infinite entering through the various attributes of God, gives perfect or absolute power, perfect or absolute wisdom, and these, centered in a Personal Being, give us an adequate, and the only adequate, explanation of the universe. This reasoning does its work perfectly, and therein it finds perfect justification.

The most simple processes of mind are those which occasion the most perplexity, if we once doubt their justness and seek a proof impossible to be given. Axioms rest on simple ac-

ceptance; sensations are the postulates, the initiatory points of experience. Science uses without hesitation the notion of cause and effect, and by inseparable association unites the very idea of explanation with it. The reasoning faculties thus long and laboriously disciplined by inquiries into material phenomena, there learn to attach satisfaction, conviction to no result which does not at length reveal this causal connection. It is merely the simplicity and familiarity of the notion which gives the mind, in all its scientific attainments, contentment. When, however, it comes to a problem to which its favorite solution is inapplicable, which lies by inherent nature in a new department, governed by obstinate habit, it forgets to carry with it only principles, and not methods, to accept, as at the first, the simple postulates of the field before it, and work quietly and safely under them. The old laws are brought to the new realm, and the Creator is called a first-cause. Some, struck with the philosophical contradictions of the language, dismiss the notion of a Creator altogether; others, with more faith and less consistency, retain it, yet limit it with their conditions, and darken it with their explanations. In fact, the proof of God's existence is too simple, too independent, too much of its own kind, to satisfy some minds. The two conceptions, the universe and the Almighty, are present to the mind with complete, explanatory power; the second necessary to the first, the first the proof of the second. This is the argument, and the whole of it; and men would believe it quicker if it were more, and more difficult. It is as simple and independent as any process can be; as that we so constantly strive to substitute for it, of understanding two things when one is known as the cause and the other as the effect. Our matrimony of the universe with its Maker is as complete and just a union before the tribunal of the mind as this other wedlock of effects and causes. It is nothing but the deception of familiarity, of repeated application, which makes the one result more satisfactory than the other.

It is evident that the manner in which we conceive of

matter will have much to do with the directness and conviction with which we refer it to the sustaining power of God. Some conceptions are of such a nature as to make it the instant, the constant putting forth of his force; as much filled and inflated with his strength, his life, as the bubble by the breath of him who blows it. Such a conception is that which resolves all things into their constituent forces, into the powers they are capable of exerting, and looks, therefore, upon every property and quality and existence itself, as an active, tense state, like that of a drawn bow, ready to fling the arrow.

There is thus in matter strictly no passivity, no permanence, no more ability to remain as it is without a constant renewing of the force that is in it, than suddenly to exhibit new attributes without the infusion of new power. As in the hydraulic press the entire pressure, silent though active, rests back on the piston, and disappears the instant the force is taken from this its fountain-head, so in this conception, matter in its active and apparently passive forms, maintains itself by a constant exertion of force, and in the language of the figure, needs, therefore, a steady hand on the piston rod to prevent an immediate and universal collapse.

To most minds this conception is not difficult as regards a force like that of gravity, which, instantly renewed, seems to act without exhaustion, to have in it the possibility of unlimited results, and in every moment of time and point of space to stand ready to apply its power. A force like that of cohesion, on the other hand, we are not so ready to regard as continually exerted. It only impresses us, when, by tension its strength is actually shown. A wire straightened by a weight of a hundred pounds, presents itself as exerting more force than when it lies in idle coils; and in the latter form therefore is spoken of as containing latent force.

It may aid us in regarding simple cohesion as a state of intense action to observe how, in the equivalence of forces, the most active may assume the form, or at least be replaced by the most passive. Thus certain amounts of motion, of

light, of heat, of electricity, are equivalent to each other, and to certain amounts of chemical action. In chemical compounds these forces as chemical affinity may lie dormant, that is, unobserved, for long periods, and yet at their expiration return in full measure to their first form of apparent, demonstrative action. Now the force of cohesion, which most of all gives us the notion of dead matter, doing nothing and requiring nothing for its explanation, is very intimately associated with chemical force as affinity, often coming and going with it; while this chemical power is found under careful and varied experiment to be replaced in exact measure by the most active of forces, such as heat and electricity, themselves capable of a further resolution into mechanical power. Thus a metal, losing its cohesion under chemical action, may, as in the Voltaic pile, give rise to electricity, and through it to visible motion, and a resolution of passive into active forces be effected, indicating that the difference between them is one of semblance rather than of substance; and that if the mind seeks a power immediately back of a developed or open force, it should, none the less, back of a dormant or concealed one. Under this conception God is that pivot or centre of power on which the whole universe rests back, from which it streams forth. Thus the work of God cannot exist a moment without him; and every part of it implies his immediate presence.

A strict application of this notion of cause and effect would seem also to lead to this view of matter. Intense activity is often at once developed by matter. An acid may speedily overcome the cohesion of metals, and gunpowder, in explosion, instantly sets free the most terrific power. If these and similar forces are capable of independent existence; if they are inherent in matter; if they come from it instead of flow through it, — then the idea of cause and effect finds sudden and premature arrest. Its office and action in the mind becomes confused and contradictory. The force which shivers a ball requires reference, but not that which holds it together. The action of force here and there is causal, but the exist-

ence of force in its storehouse, matter, is without cause. Thus all is inconsistent; force now demands explanation, anon demands no explanation, and our capricious reasons come and go with the mere accidents of form and position. The force of gunpowder suddenly re-appears, and its presence calls forth no attribution to a higher source, while the creeping of a bug and the fall of a stone seek explanation in the intervention of some force further back than that presented in the movement itself. If force as force ever requires, it should always require, reference to an agency deeper than itself; otherwise, the action of the mind becomes arbitrary and factitious, handling like phenomena with diverse laws.

But this conception of matter is not so established that all accept it. Matter is regarded by many as capable of independent existence, as the source of powers, the centre of properties. Thus the inanimate, physical universe, with all that order and beauty which are the interplay of its own forces, the products of its own laws, resting back for support on, or rather expressing the nature of, matter in its various forms, is a self-sustaining and self-governed product, needing only the postulate of its own existence for the perfect explanation of all its phenomena, present and progressive. With this prevalent conception of matter, what proof do simply physical facts and events present of the being of a God?

No argument can be derived from the order merely of the world, since that order arises from the very nature of the elements of which it is made, and is wholly referable to that nature. There is no mechanical shaping and transfer of material in the world like that which man occasions. All events proceed under natural forces, that is, forces which inhere in and constitute matter; and, matter being granted in its own nature and properties, nothing more is required to secure a universe. All the order, the adaptations which grow out of the subtle interaction of laws, prove nothing which is not proved by the simple existence of matter, since this harmony and these adjustments are involved in the very nature of matter, in how chaotic soever a form it may at first

present itself. Diffused, impalpable, nebulous, it at once, of its own bent and bias, commences a work of creation, so far as that work is one of new dispositions and combinations, and, at last, issues in a solar system, with all its variety, separation, complication, and beauty of parts, — a system which springs by inherent power from its own germ as certainly as, and not more strangely, than the oak from the acorn, the bird from the egg.

What argument, then, still remains to us for the existence of God, from the mere presence of matter under this conception of it? According to the theory of its nature now spoken of, matter is entirely capable of present, independent existence, and has been, therefore, at all past points of time so capable. We may, then, make three suppositions concerning it; that it sprang into being of its own power; that it has always existed; or that God gave it being. The first supposition is inadmissible, because of the notion of cause and effect. The line of reasoning which this idea imposes is brought thereby to an abrupt and unreasonable conclusion.

But what cuts us off from the second assertion, that it has always existed, and confines us to the third, that it is the work of God? We answer, the simple fact that the one offers a solution, the other no solution of the problem. By asserting the eternity of matter, we simply expand the proportions of the problem so far that we can no longer grasp or handle it, and thereupon dismiss it. Thus the boy asks of his fellow how a large boulder before them came there. The answer is returned: It was always there; and the edge of curiosity is blunted. Such a response is a simple evasion of the question, not a solution of it.

But it may be said: Do you not do the same thing in referring matter to God, and then escaping further inquiry by asserting his eternity? We answer: The eternity of God, infinite in all his attributes, is a proportionate, harmonious idea, which the mind readily accepts; while the eternity of matter, finite and dependent in all other respects, is a disproportionate, unharmonious notion, not consonant with thought.

The unsatisfactory nature of such an assertion is the more felt as, tracing it backward, we find matter constantly changing, assuming more and more primal, elementary forms, thus preserving the similitude of the finite and dependent, and utterly unable to assume that of the infinite and absolute.

If, however, we so far burden the argument as to accept the present independent existence of matter, we cannot afterward deny the possibility of its eternity, sustaining our position by convincing proof derived from the nature of matter itself. Matter that can now exist could always exist, and we may evade its origin by pressing it out of sight. The more tenable point of defense is its constant, absolute dependence.

There will always remain, moreover, in addition to the difficulties now referred to, a very important element unaccounted for by the supposition that matter is eternal, — the order and wisdom involved in the nature and relation of its forces. We may, indeed, refer the wisdom which the world presents to the properties and interaction of the elements which compose it; but the inquiry still returns: How came these elements possessed of such properties, so marvelously related, and capable by blind and inevitable action of reaching results not to be surpassed by the most exalted and perfect wisdom? To make such inimitable perfection as this finally and forever referable to mere matter, is to break down the distinction between it and mind, and refer that to irrational and blind agents which exhibits the utmost stretch and scope of reason.

This is to violate the notion even of cause and effect, and make the fountain less than the waters which flow from it. The wisdom involved is not adequately explained by an unwise cause; the beauty and order by a blind, irrational force. If such a disposition can be made of the physical perfection of the universe, let us no longer infer an intelligent agent from the mere fact of an intelligent product, a builder from a building, a writer from a book. It is found at length that light can come out of darkness, that this mighty flood of thought, that goes pouring on in the world

about us, sprang, like any other waters, out of the earth, and came from the dead, silent, unthoughtful depths of mere physical existence.

We have thus far separated the inanimate from the animate world, because the last presents a distinct phase of the argument. We are not able to show that matter had a beginning; we are able to show that life in its various forms has had a commencement on this globe, and this fact gives our proof a new premise. None deny or cavil at the evidence afforded by geology of successive periods at which the several forms of vegetable and animal life have arisen.

There is here again, however, diversity of conceptions, some giving an easier, more natural foothold to the argument for a Divine Being than others; but no conception is able wholly to evade its force. Some, indeed, would educe all the forms of life necessarily from each other, and finally from mere material forces; but this theory is as yet so purely theoretical, so far transcends, if it does not, as most think, contradict observation, and is burdened with so many objections as not in this connection to claim consideration. If established, moreover, the most it can do is to throw the argument back to the point at which we left it in speaking of material forces alone. If we are to include among the properties of matter the wonderful forces of life, their potential development and order, much more impossible and unreasonable does it become to leave this germ big with a universe, this animate compend of beauty and strength, with no reference to a rational source, this volume of volumes with no ascription to a thoughtful mind.

Most still accept the independent origin of species, if not of species as now classified, yet of other species more inclusive than these. Here, then, the several lines of force represented in distinct, organic products, in plants and animals, are traced to a beginning. These threads of power disappear from the earth, and we intelligibly dispose of them only as we gather them all up in the hand of a Creator. Now, if not before, here, if not elsewhere, the exigency arises which calls

forth the idea the mind has at hand of the Almighty; and the two, the fact and the idea, unite in an explanation which is sound because it is satisfactory.

The conception we have of the nature of vital force, though not capable of reducing the proof below that now given, may considerably enhance it. We may regard this force as inhering in matter as another and new attribute; or we may look upon it as a force above matter, shaping to its own ends the chemical and mechanical forces belonging to the physical elements it employs. On the first supposition vital force is a peculiar property of certain kinds of matter, very different, indeed, from other properties, yet capable of the same independent existence — an existence identified with, and transmitted by, the physical germs which contain it.

The phenomena, therefore, of the organic world, though more complex, more replete with instances of striking adaptations, of means immediately reaching a beneficent end, still transpire, like those of the inorganic world, under the necessary action of forces having no existence except as properties of matter. These germs created, and the various forms of life have through their whole career the same complete evolution from within themselves that belongs to a nebulous mass in the slow circuit of ages, directing, consolidating itself into a sun, planets, and satellites. This view, if the creation of species could be escaped, would at once coalesce with that which regards matter as eternal, and would be ready to postulate the vital force with the other properties of its physical elements.

This theory is burdened with the great difficulty of supposing that that discriminating force which is to give separation and form and office to all the complex organs of the animal body, as that of man, can inhere entire in a microscopic cell, which it is impossible to distinguish by any discoverable difference from those cells which are to be developed into other most diverse forms of life; nay, more, that it can give rise indefinitely to forces like and equal to itself, thus containing within itself a power susceptible of unlimited expansion, able,

tion with chemical and mechanical forces, which are neither increased or diminished in volume; that in muscular action there is a destruction of fiber, in thought a decomposition of brain-tissue, in animal heat a series of equivalent chemical changes. Thus throughout, growth stores up in some form of chemical affinity power which, in the constant dissolution and reconstruction of the body, shows itself as muscular, nervous, and vital action. New forces are not created, but old forces are used under new forms and conditions by the vital principle. There is always the taking of something present, the transmutation of power from one form to another, in vital action; as when light and heat furnish the initial forces for building up the tree, which may again by combustion be made to yield light and heat. The combustion of the human body is muscular and mental action, and whenever these appear there is the liberation of power previously held in chemical compounds. Nor is the power thus liberated any more created in the formation of the organic product than in its dissolution. Then, as in previous and subsequent processes, the native force of the elements and agents employed are made available, though under conditions which vital force can alone secure, and for ends which it constitutes.

Careful investigation shows in many cases, and with much probability carries the conclusion to all, that the vital power is what it is by the new conditions which it secures more than by any new property it imparts to matter, or peculiar force it gives rise to in it; that a stream of forces under various forms, as chemical affinity, light, heat, electricity, and motion, is pressing about and passing through its products, and that each vital action involves the employment of one or other of these forces in an amount equivalent to the results wrought.

Thus life becomes an invisible agent, not inherent in matter but acting on it, showing itself as the architect of living things, so deftly using and dexterously intertwining the blind powers of nature as by means of them to cause the plant to

spring freely from the earth, the bird, at the loosening touch of heat, to separate itself part by part from the contents of the egg, and the embryo to renew the form of the parent by materials and forces as inherently capable of one product as another. The pipes of the organ are mechanically filled with wind; the organist touches the keys and gives us the harmony of music. Sufficient forces are present in nature, the lives play upon them, and straightway spring forth flowers and forests, birds and beasts, and man, giving to the world the marvellous harmony of its living things.

This conception of life lifts it entirely away from matter, makes it a purely spiritual power, if not intelligently, at least instinctively, pursuing the divine plan, and prepares the mind for the acceptance of that divine agency with which some at least would identify life, and all must feel it closely allied.

Restating the conclusions now arrived at, we reject in the proof of the existence of God the reasoning from effect to cause, as unable to reach that for which it sets out; and equally unable to arrest its steps if it should reach it. We substitute for the notion of cause another alike native to the mind, that of an infinite Creator. We affirm the existence of such a Being to be proved by the existence of the universe, a product not to be otherwise explained, and thus perfectly explained. The supposition of the eternity of matter we regard as an evasion, not as a solution, of the problem. It also leaves the element of wisdom, and organic products directly traceable to their origin, unexplained. Confirmatory of the conclusion thus reached, though not necessary to it, is that view of matter which regards it as centres of force; and of life, which looks upon it as a power neither identical with nor belonging to matter.

The more we search for God the more he evades us. Let his presence escape us on the right, and we turn in vain to the left. We must find him everywhere if we would find him anywhere. We must reach his power in the stone our foot strikes against; his glory in the sunbeam that parts the

cloud and falls in floods before us; his life and love in the love and life that warm our hearts. Direct, quick, unwavering, must be the flight of the soul heavenward. Unless we accept it fearlessly we cannot beat this spiritual atmosphere or rise in it.

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ARTICLE VI.

THE CHRONOLOGY OF BUNSEN.

BY REV. E. BURGESS, LATE MISSIONARY OF 'A. B. C. F. M. IN INDIA.

WHEN we read the account of the last hours of Bunsen in the interesting obituary notice of him which was published in our journals soon after his death, we should have entertained from it a far higher idea of his Christian character than we did, had we not previously read his "Egypt's Place in Universal History." But having read that work we were puzzled to understand how one who treats the holy scriptures as he does, should even appear to be an evangelical Christian. It was altogether contrary to our observation, and we thought contrary to the observation and experience of the world, that one who adopts principles of interpretation such as Chevalier Bunsen does in the work above alluded to, should give evidence of such a heartfelt reception of the Saviour as is implied in the language of his obituary notice. And we could remove the difficulty only by the supposition that that language, as coming from his lips, had less than its usual meaning, or his mind had undergone a transforming change between the time of his last great literary work going from his hands and his death. Perhaps either supposition is possible. The latter is more agreeable to entertain, though we have seen no evidence of its being fact. Bunsen professes to regard the holy scriptures as of divine authority, and to treat them as