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THE OPEN SECRET

A STUDY OF
LIFE'S DEEPER FORCES

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BOSTON
AMERICAN UNITARIAN ASSOCIATION
1912

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CHAPTER I

VITALITY AND MECHANISM

One of the notable things in that notable book of the Old Testament containing the prophecies of Ezekiel is the curious vision with which the book opens.

A labyrinth of wheels and monstrous creatures—the despair of commentators—is described, where within the beryl-tinted wheels are still other wheels, and again within each wheel there is enclosed the spirit of some living creature. Whenever any draughtsman has sought to make a representation of these winged cherubim, with their bovine feet and symbolic faces of beast and man, appearing like burning coals, or has tried to sketch pictures of these enclosing wheels that were each enclosed by other wheels and in their swift motion followed the guidance of the living spirits within—whenever, I say, any artist has tried to depict this vision he has found it impossible to imagine it without becoming involved in inextricable confusion.

Nevertheless, the general idea symbolized by this vision is one which is not merely quite rational, but is an idea most significant and in-

structive. For the essential lesson of the vision is that every living creature has around him some revolving machinery, and that within all the mechanical wheel-works which are visible there is a living soul as the motor power and directing agency of the enclosing engineering.

Think for a moment of that phrase: "The spirit of the living creature in the wheels." Is it not a wonderfully terse and pregnant summing up of the infinitely vast and varied phenomena of the universe? What wheels within wheels characterize the Cosmos? Whirling suns and planets, satellites revolving punctually in their orbits, earth-circling tides, the constant circuit of vapors from sea and lake to cloud and back again by rain drop and streamlet to mother ocean, and that Protean circle of transformations by which the solar energy changes from light to heat, and heat to chemic or electric attraction and returns again without loss of original force—what wheels within wheels constitute the complexity of Nature!

A great German scientist, seeking a title for his work on the mysterious phenomena of vitality, could find none so satisfactory to him as "The Circulation of Life." The very condition of vitality seems to be this constant rotary motion. In man, the blood under the unwearied beat of the heart must course out to

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the capillaries and brain cells with its fresh supplies of nutriment and energy and must then flow back again to the lungs to become purified and recharged with oxygen. The nerve currents must flow with their sense impressions from the surface up the sensory nerves to the brain and back again in appropriate motor responses to the muscles. In lung, heart, ganglion, blood corpuscle, cell and molecule, there is a constant round. There is continual efflux and influx, consumption and replenishment. It is only by this ceaseless dying and as ceaseless rebirth, that animate beings keep alive.

And to maintain this circulation of life, what curious and complicated machinery in every part of the body—the valves of the heart, the batteries of the brain, the triangular muscle of the chin, the levers of arm and leg, with their beautiful ball and socket joints, the keyboard of the ear with its three thousand strings, and the hundred other equally ingenious contrivances that make up this moving house of flesh, most of them working so automatically and perfectly that it is only on the occasions that they get out of order that man takes any thought of the complicated mechanisms and delicate adjustments by which he walks and talks and breathes.

In former days life and mind were fancied

to be powers only loosely connected with the grosser flesh into which they were injected. But the investigations of modern physiologists have shown the connection of the vital and mental with their material organs to be of the closest kind. Only through the fuel of food can the flame of life be kept alive, and every vital spark costs its inexorable "quid pro-quo" in disintegrated tissue. When we would get extra muscular exertion from a laborer we must give him an extra amount of nutritive substance to convert into force. The grass-feeding ox, from the nature of the case, cannot compete in speed or strength with the flesh-feeding tiger.

Even the mind is dependent on its wheels, its nervous mechanism. Slice off, layer by layer, a pigeon's brains and in the same measure you pare off its power of feeling and of thought. Each of our senses,—sight, hearing, smell, language—has its respective brain-center. Cut out this cerebral seat and the corresponding faculty disappears.

What unwelcome thoughts at times obtrude themselves upon us; what strange reproductions of habits and peculiarities of ancestors, and what mysterious impulses, foreign to our personal taste and choice, occasionally take possession of us. When we are in an idle mood, how thought follows thought, and how one men-

tal picture succeeds another along the well grooved channels of association, driven by some intellectual enginery that seems quite alien to our own personality. Or in the moral world, what a bundle of habits does man often seem to be—a conglomeration of half a dozen progenitors, a mere will-less scale-yard, going up or down, just according to the preponderance of interested motives put into the mental weighing pans.

All these mechanical conditions of life have to be admitted by the candid mind. It is only in the minute and curious detail into which modern research has pushed its probe that there is anything new in this line of facts. The essential truth that a sound mind always depends upon a sound body has been acknowledged for centuries.

But equally true and equally to be acknowledged is the converse—that for the body's soundness and activity there is needed a healthy and active spirit; it is equally evident that flesh needs soul as much as soul needs flesh.

The materialist, concentrating his attention solely on the mechanical side of life, of which I have been speaking, would present this as the sum total of vital existence. Animals and men, the lowest star fish and the greatest of poets, (he tells us) are all just so many machines. The food supply determines the egg and the egg

produces the bird or bee. As are the respective environments, sense-impressions and links of association, so must be the man's ideas.

"Without phosphorous no thought," was the favorite adage of the German man of science, Moleschott. According to Naturalistic Monism, every act is predetermined by its conditions before it arises. Free choice is a myth, and an idea not generated or conditioned by the physical environment is a chimera. He who is most confident of the dominant power to direct his course is the veriest bit of driftwood in the eddies of inevitable destiny.

Such are the superficial dicta of the materialists. They are so fascinated by the shapes and motions of the wheels surrounding the living beings that they forget to ask, "What moves them?" They are content to watch only the outside changes and so miss the deeper and essential qualities of humanity—the vital force, the evolutive type, the comparing judgment and the choosing Will. Even to keep the body alive and in good order for its three score years, there must be more than mechanism. For its great peculiarity is the constant repair of its daily waste, decay and minor ills and injuries. If it is an engine, then it is one that contains within an automatic registry of the experience of its ancestors for centuries; and as Prof. J. Arthur Thomson says: "It is a self

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stoking, self-repairing, self-preservative, self-adjusting, self-increasing, self-reproducing engine." But who ever knew a machine to mend its own breaks and replenish its own wastes? It is by this super-mechanical power, ever superintending, remaking and over-ruling the ordinary chemic and physical tendencies that would disintegrate its parts, that every animate organism lives.

And it is the same spirit of life within the physical machinery that is the real agent in our mental and moral life. Powerful as are our habits, our prejudices, and our fleshly instincts, yet that which makes a man a man is his consciousness that he can over-rule these. He can check these impulses before they are incarnated in actions; he can break away from old and undesirable habits and initiate a new kind of moral custom; and, under the influence of that loftier aspiration for an ideal best that harries progressive humanity, he can turn away from all beaten paths to climb spiritual heights never before attained by man.

The mind has a power independent of the forces, whether material or social, pressing upon it, that may properly be called "the sovereignty of the self in willing." Behind all the cerebral machinery there hide, as the main spring that moves it, those noble powers by which man is a living soul and a child of God.

It is because of this infinite reservoir of strength on which he can always draw (and only because of this) that the will of the virtuous man exhibits this peculiar mechanical paradox, viz: that its power increases, not diminishes, with the resistance. Physical force is a constant quantity. But the moral power of the still small voice draws aid from an inexhaustible source to supply whatever energy it needs to overcome the tide of temptation.

The limited outer view of things that leads so many to a materialistic solution of the great "World Riddle" is as superficial as it is depressing.

They who delve too persistently in the basement excavations of the Cosmic Temple often fail to see the heaven-reaching pinnacles for whose support these deep foundations were laid, even when the sunlight of knowledge gilds them with its brightest illumination. But they who look at the evolving universe with the searching vision of spiritual insight see in every marvel of natural beauty and in every high experience of the soul the fragrant blossom of a Divine life and love, unfolding petal by petal. Just as surely as all the loveliness and perfume that emerge from the hyacinth when it comes to full bloom were infolded at the start in the homely bulb, so do all the spiritual forces and consciousness, which have been evolved in the

highest reaches of humanity, speak of the Divine Power and Reason at the heart of the universe. The wing of the bird implies the air to which it is adjusted. The eye of the animal implies the corresponding light. Each organ answers to an environing element which stimulated it into existence. So the spirit's eye implies the spiritual light and the immaterial object. Our human reason implies the Universal Reason and as we listen to the music of human duty and noble self-sacrifice we hear the heart-beat of an Infinite Love.

To ride, as man does, at the head of the procession of creation, in his triumphal car, piled high with all the prizes and dainties of earth, seems a sufficiently proud position; but man is so constituted that it is not enough for the satisfaction of his heart. The human consciousness needs to find and recognize its relation to the infinite and heavenly. The magnitudes of matter may suggest the limitless expansion of the Divine, but it is only through the pure soul that we enter into its secret. If George Eliot (as one who well knew the human heart has said) had ever pressed a lifeless babe to her bereaved bosom, she would never have been content with the vague impersonal survival of her Choir Invisible.

You may call the beatitudes of the Galilean Mount mere misty paradoxes, and those yearn-

ings, that distinguish man from the beasts of the field, prismatic bubbles that dissolve at the pin-prick of common sense; but it is these that illumine life with light which no earthly darkness can dull nor care overshadow nor the night of death extinguish.

Thus in our personal life and conduct we should ever see within the wheels the living spirit. And, secondly, in our view of the universe, in our philosophical and religious interpretations, a similar conjunction of the mechanical and the vital should be recognized.

The science and theology of former days acknowledged only the spiritual. The supernatural was everywhere in the foreground; the natural in the background.

To the chanters of the Vedas every flickering flame was a living creature, an appearance of Agni, the fire god; the Greeks beheld in every rustling tree a Dryad, in every babbling fountain a water nymph. The prevalent faith of all the early nations, as of savages to-day, was similar. Sun and moon, cloud, storm, evening breeze, each had its impelling divinity. Each spirit followed his own caprice on the impulse of the moment. Nowhere was there any fixed order. With the ascent of thought to the higher faith of Monotheism, the only change, for a long time, was that every catastrophe or trouble was interpreted as a retri-

bution sent from the Supreme God upon the sufferer for some known or secret sin. Life was a succession of special providences, and the career of every prophet or saint a series of signs and wonders, manifesting the direct intervention of the Most High.

Our modern thought, however, has gone to the very opposite extreme. No wind bloweth where it listeth; the wildest gust has its appointed course, from which it cannot swerve.

By uniform laws, every continent has been moulded and uplifted. By simple processes of variation, struggle for existence and accumulation of hereditary gains, the rudimentary creatures have developed into complex and elaborate organisms; the tree of life has sent forth a thousand different stocks and the most curious and varied forms appear on its genealogical stem. In all these diverse species, in all their ingenious organs and vital adjustments, in the rise, growth and decay of nations, and in the most astonishing coincidences of personal or social events, modern science sees only the products of that great machine-shop of interacting, unresting wheels of law and force that we call Nature.

Now, the natural result of this extension of the network of law and its mechanical processes over the whole universe is at first most chilling to faith. When the believer who has been

brought up in the common conception of the Deity as a vague presence immensely greater than man, but with the personal loves and dislikes, moods of wrath, pity, imperfect counsels, changeable purposes and incomplete forethought which are characteristic of humanity,—when such a believer, I say, comes by scientific investigation to abandon these ideas, what a loss he feels! In what a freezing waste and friendless world he seems to find himself. Having always thought of God as the great intervener and repairer of the cosmic system, manifest in every mystery or eccentricity of the processes of Nature, this reduction of the perturbations and irregularities of the world to mechanical laws seems to banish God from the universe.

This is the ground of that grave prejudice which so large a part of the religious world has against the doctrine of evolution. Since the great champions of this pregnant law have shown how every complex and higher phenomenon of the world has had its origin in some simpler and lower form or force, and by their astronomic, geologic and biological researches have expanded the sway of this principle till it is made to include the farthest nebulæ and the utmost rim of telescopic ken, God has seemed to be pushed outside the verge of his own universe and made henceforth a superfluous hypothesis.

Now, candid Christian thought must admit the mediation of these mechanisms and wheels—the wheel of evolution, the wheel of heredity, of struggle for existence, of physical conditions and environment, of unbroken order.

But scientific thought, if that also is candid, must recognize the living spirit within the wheels as even more essential. As the great German philosopher, Lotze, has said: “The true source of the life of science lies in showing how absolutely universal, in the structure of the world, is the mission of mechanism, yet how completely subordinate is its significance?”

A profounder analysis of these modern theories and the methods which they suppose points us back to that very supersensuous realm that they are thought to make unnecessary. There can be no evolution without a preceding involution from a power mighty and wise enough to produce the marvels that later appear.

The materialist who explains life and thought and all the other thousand wonders of the world as but re-arrangements of an original stock of energy and motion in the primal nebula only accounts for the continuance of the world's activities in some shape or other. This account does not explain the wise and orderly direction and harmony of these activities. To account for that we must have a sufficient wisdom and beneficence in the First Cause. The material-

istic theory does not account even for the undecayed and freshly renewed action and energies of our universe. For on pure mechanical principles it ought to be constantly losing its working energy, and it is necessary, as Professors Tait and Stewart have shown, to suppose an "Unseen Universe" surrounding us, which may feed the visible universe and maintain its customary activities. That which makes evolution a process of real progress, not a mere swinging round the circle, is the progressive saturation of matter by spirit which it exhibits. More and more every day, as especially the great discovery of the Roentgen rays illustrates, science is acknowledging the existence around us of forces and substances which pass through every pore of our bodies, and yet are far too subtle to be weighed in any balance or to be seen by any microscope.

In the processes of evolution it is these influences from a higher plane that especially accelerate the development of life. How slow was the upward climb of the vegetable kingdom while its progress was carried forward chiefly by the influence of the environment, fortuitous variation and natural selection. How bare of beauty was it and how meager in form and variety! But when the higher forces of animal desire and visual pleasure and esthetic taste came to act upon it, as bee and moth

and butterfly became intermediaries in the work of vegetable union and reproduction, what an amazing diversity of form and glory of adornment, and what rapid ascent in complex organization took place! In the animal kingdom, for example, it was only after the mental forces of desire and effort, use, disuse and habit came into play that the chief progress in complex organization was made. It was these mental factors, as Prof. Cope and the naturalists of the Neo-Lamarckian school have shown, to which is due the building up of the chief organs of the body, especially the feet, hands, teeth, jaws, eyes and brain. So in human civilization, it is the uplift of a few superior minds, in raising and inspiring the common herd that has chiefly carried humanity forward. Similarly, I believe, these highest human minds—the great geniuses, the prophets and reformers and, indeed, all who have candidly opened the windows of the soul to the light of truth and right,—have in their turn been illuminated by the influx and inspirations of the great unseen world of spirit in which we are immersed and have been drawn up and strengthened by our contact with it.

If the soul of animal and man has done so much in evolution, how much more ought we to credit to the Over-soul?

When the air plant, hung up in a room, gains

weight and substance, we know there must be in the air itself a source of nutrient supply. So when the minds of men grow and burgeon without visible feeding, we know it is by drawing in and assimilating the invisible spiritual nutriment. It is this continuous communion of the finite with the infinite that we call revelation. Conceived as some irregular and miraculous injection of infallible truth which the mind of a prophet or saint passively receives and records without the slightest shade of human errancy or imperfection, revelation is a difficult thing to credit. But conceived as a constant and orderly inflow and pressure of the ever active Divine energy and light on the finite mind, giving sensitiveness to the conscience, illumination to the intellect and fortitude to the righteous will (but conditioned and tinged, nevertheless, in each individual according to his personal capacity and teachableness), it is entirely reasonable.

In the new scientific theory of mind, mental power is not one energy out of several, but an aspect which all the energies of Nature assume when they pass through the brain and are viewed from within. This direct view, then, behind the scenes of Nature, which consciousness gives us, shows the mental qualities, the spiritual side which all forces of Nature possess when really known. Through these inward ex-

periences of the physical forces we legitimately reinterpret all and ascribe to them a spiritual nature. In that little circle of physical processes through which we can look (viz, the motions of our own brains and nerves), we find feeling, will and thought behind them. Hence we feel justified in saying that feeling, will and thought will be found behind ALL the physical processes of the world as their cause and essence. It is not because of certain breaks in the chain of causality, certain gaps in the line of the development of the animal world, or certain missing links between the brute and man that materialism is unsatisfactory and that physical nature demands a God to supplement its insufficiencies. It is for far profounder reasons: it is because all order implies reason; all change implies force; all force implies will. The great tree of Life should ever be thought of as an endogenous organism, growing not from without inward, but from within outward.

Nevertheless, the converse truth should not be overlooked, that for successful growth there should be suitable physical conditions and materialization in appropriate embodiments. Spirit to pull effectively must pull in the steady traces of law. The ardent temperament chafes at being obliged to use this rigid machinery and groans at being tied up by these material straps and external bonds. He thinks that

there ought to be some quicker way to cure the tuberculosis patient than by fresh air, and some easier method of restoring the neurotic than by food and quiet and Nature's healing processes.

The theologian is apt to believe that God has given to the world some more immediate revelation of divine truth than what he has imparted through the growing spiritual perception and clearer moral insight which has come naturally to our human race. I once heard a man of education say that he believed that inasmuch as in his youth he had given his heart to the Lord and been converted according to the received church customs, he had a right to expect to receive from God a superior measure of health and personal power and influence; and he was sorely disappointed that he had not received this special largess. Like so many others, this man had forgotten that God's universe has its distinct realms and planes and conditions, and that whoever wants a particular crop must plant and cultivate its appropriate seed. Whether we like it or not, we must recognize the universality of God's laws and the unchangeableness of his methods, and that it is in vain to expect him to alter his eternal plans to suit our petty convenience. There is no magic, no witchcraft in the divine dispensation.

But though these wheels move straight for-

ward, swerving not to prayer nor to curse, nor to the most passionate outcry of the saintliest soul, it is well to remember that the wheels are full of eyes. The Omniscience of the Infinite One, by its wise provisions, by its skillful, automatic self-adjustments and by the transforming power of the soul's chemistry, provides for the good of all his creatures. Love everywhere hides within these laws. Its pains are but danger signals; its penalties are correctives. This changeless providence, hurting us only when we transgress the divine laws, works ever for greater good. This rigid uniformity and intermediate machinery which we are obliged to master is the means of our education and spiritual development.

In our personal life and in our interpretation of Nature the secret of peace, power and knowledge lies in recognizing these two complementary facts—the outer mechanism and the inner life.

And if we are wise we shall also bear them in mind in our associated efforts. In social life nothing can be achieved without the wheels of organization. He who carries his individualism so far as to refuse to sacrifice the least particle of his personal liberty in the partnership of any association never accomplishes anything. It is only through government and a settled order that even freedom is to be obtained. The

shouter for anarchy is the most transparent "stalking-horse" of violence and tyranny that there is on the road; for those who plunder the public always know the strength that lies in a clever combine. Every political movement that accomplishes anything in a State must either organize a party of its own or take possession of some political machinery already in existence.

Each new religion, doubtless, had its first beginning in the solitary breast of some aspiring soul who goes up into the mountain apart to pray. But unless that heavenly spark is to perish uselessly, it must kindle a kindred fire in sympathetic souls. The new spiritual life must incarnate itself in an ecclesiastical body. Its faith must formulate itself in creeds, sing itself in psalms, objectify itself in rituals, organize institutions, schools, missions, executive machines of all kinds. Otherwise, it will fade away.

But, now, on the other hand, the State or the church that would not perish with dry rot must not become a mere set of wheels. That is the unfortunate tendency of all organizations. Corporations, as the lawyers say, have no souls. The board, whether civic, philanthropic or religious, is too apt to be correctly named "a *board*,"—wooden, hard and narrow. The party machine, instead of being worked to

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spread principles and effect reforms, is used to keep its members in office. So, likewise, many a church becomes a similar machine, concerned not about the promotion of spiritual life or the attainment of truth, but only about the maintenance of the creed and the ritual and the securing of good places for the Pharisees who with the least wincing can repeat the old shibboleths. Societies formed for the very purpose of promoting the knowledge of the Scripture, through a blind conservatism and an overbearing financial interest, become the chief obstacles to its candid study and enlightened understanding. Recall how our great Bible society in this country still continues to reprint the old version, so manifestly full of errors, and blocks the way to a circulation of the more correct Revised Version. It is only one of the many ways by which, instead of Christianity, we have to-day a miserable "churchianity," whose motto, as Dr. Edward Everett Hale once said, is "The intentional reversal of the great apostle's motto; and despising the things that are before, they worship the idols that are behind."

It is for this reason that when on the heels of the impractical prophet there comes the shrewd priest and his ecclesiastical machinery, next there must come the reformer to break the machine in pieces, that the living being within may not be done to death amid the multitude of

whirling rods and the meshes of red tape. "Dead mechanism will never supply the place of living enthusiasm."

For genuine religion we need something more than church ceremonies and institutions, litanies and cathedrals. There must be the uncalculating surrender of the spirit, the intimate contact of the human soul with the Over-soul.

To make the wheels of state and church move aright we must have a man within each. Let us not be too anxious about these mechanical instruments. If there is no vital spirit within to guide them, the sooner they rust out the better. If there be a vital spirit inside, it can build a new set of organs for itself when it chooses. It is not the body that constructs the soul. It is the soul that constructs the body. Let our chief concern be to have the faith and vital energy which possess the building faculty. The needful thing is to discern so clearly the Divine Spirit behind all the revolutions of history and the mechanisms of nature that the wheels of our daily life shall not drag in sloth or gloom, but move cheerfully and actively in the heavenly path. This life of God is ever near us. Behind all the apparently relentless machinery the heart's insight recognizes the tenderness of the Father's all-embracing forethought. The insight that discerns it is an insight not simply characteristic

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of a warm heart, but one normally possessed by the clear mind, and for the human will it is the essential condition of vigorous, hopeful and progressive action.

CHAPTER II

THE COSMIC MOTOR POWER

The spectacle of the universe is its ceaseless display of movement. Nowhere, if we examine closely, can we find anything really at rest. The fixed stars, as we call them, are steaming on their way swifter than express trains, and the rigid, inert stone is really but a throng of ever-dancing atoms. Or if we look into the past, we find that the world has come to its present condition through a countless series of changes and transformations, no stage of which has been more than momentary, or has ever exactly repeated itself. We are led irresistibly to ask, "What is the *motor power* that has carried the world forward through these countless and constant changes?"

To answer this question intelligently we must go back to fundamental problems. We must consider the conception of cause, and what it necessarily implies.

Whenever any event in life or nature is reflected upon, the mind is always found going behind it, inquiring how it came into existence. By an intuitive principle, constitutional to the intellect, reason traces back in the direction of

that event, seeking the power by which it came to pass. And until such a cause is found, reason remains unsatisfied.

This is the principle of our practical life and daily activity. In science it is still more frequently and necessarily manifested. Auguste Comte, to be sure, laid it down as a maxim that science should study only the laws of phenomena, their coexistences and sequences, and abstain from asking after the origin and causes of things. As for the *duty* of science, I may quote the opposite and equally weighty authority of Helmholtz, who declares that conformity to law in nature must be conceived as a *causal* connection, and that if we pursue to genuine fulfillment the desire to know the laws of things "we have to seek out the *forces* which are the *causes* of phenomena."

And not only is the cause the great object of the inquiries of men of science, but there is none of them who considers the search ended with the first induction of a cause. Beyond the proximate cause, it is seen, there must be a more remote cause, and when this has been reached the inquiry renews itself. Thus the mind is led farther and farther back, each secondary cause of the chain resolving itself, as soon as reached, into an effect of something constantly receding.

In this constant retrogression where shall we

stop, or is there any stopping place? As long as we pursue the line of changes, events, appearances, there is no halting-place. The end flies before us as the rainbow before the pursuing boy. Can we be content, then, with such a never-ending series, in which there is nothing to bring us to a halt except our own weariness? This is always unsatisfactory to the intellect. The intellect demands a cause of the whole chain as one total as imperatively as it demands a cause for each successive part. Otherwise we have a line of effects without a single genuine cause. To find the real cause we must go back to that which does not disclose itself as an effect requiring another cause, but is a sufficient reason for itself, a self-subsistent activity. As the first element of the idea of cause is the retrogressive motion, so the second element is the halt. An end, a final rest and repose, as has truly been said, is included in the very idea of cause. To accept in its stead an infinite series of antecedents and consequents is to accept and follow out the first half of the idea of cause—the regression toward a cause, back from every effect—but to reject the other equally essential part of the idea—the repose in cause as a final ground. If cause is *not* a requisite of the mind, then believe from the first that no event needs a cause. If cause *is* a requisite of reason, then believe in the kind of

cause that it craves, a cause that is ultimate.

As the principle of causality, then, can find no resting place in the chain of events, in the surface of appearances or in the meshes of contingent conditions and as in these paths it is always necessary for it, like Dickens' "Poor Joe" in the streets of London, to "*move on*," where shall it find rest? Only by going beyond the web of changes to the unchangeable Changer; by passing behind the accidental to that with which there is no chance; by proceeding through the shell of phenomena to the Reality hid within it.

But here, perhaps, it will be asked: what is the cause of this Ultimate Cause, this Absolute Reality? Why does not this cause need another cause behind it, as much as everything else? If this cause can be conceived as existing uncaused, why cannot other things? For this reason: The principle of causality is not that everything should have a cause, but that every *event* or *change*, everything that *begins* to be or shows in itself the qualities of an effect, should have a cause. As long as we are on the plane of the changing, the effected, the phenomenal, we must go backwards and backwards in search of a sufficient origin. But for that which is essentially a cause, exhibiting no marks of being an effect or derived from anything else and which has

substance and power, the reason needs not to demand a cause outside of it. It is sufficient as its own cause, self-subsistent, and the moment we reach this "Permanent Reality," the law which we must obey is no longer the first part of the causal law, that which demands search for an unfound cause, but the latter part of it, that which requires rest and content in the found cause, the Enduring Real.

Such in general is the idea of cause. What is the bearing of this principle upon the origin of the universe?

As was declared at the outset, the history of the world, as far as we can trace it, is an incessant series of changes, motions and transformations. Looking at it, as a whole, it carries us back irresistibly to a beginning on the farther side of which something other than itself must be assumed. No theory of the universe that has any regard for its actual laws and facts can avoid such an assumption. Take the Darwinian theory, for example. Trace back man to his simian ancestor, horse to hipparion and orhippus, dog to wolf, bird to reptile, each walking and creeping and swimming thing to a marine ascidian or some other equally low and primitive form. The question recurs: "What power fashioned this primitive form and stored within it these myriad potentialities?" Suppose, then, we aim at thor-

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oughness and conceive of primal matter as the universal mother. Suppose that life and mind were implicated in the nebula; suppose that air and water, metal, plant and animal are but crystallizations from the molten spheres, and that the whole history of our universe is simply a history of the aggregation of its atoms or electrons. Still the question of Creative Power has not been answered. It has only been pushed farther back. It recurs as before, "Whence this Primal Matter and its Formative Potency? What was the cause and origin of this evolutionary process?" This question must still be met and answered somehow.

Now I claim that no answer is satisfactory that presents any part of the existing order of changing appearances as the cause and origin of Nature. The origin of Nature must have been anterior and superior to Nature's laws and forces.

In the first place, the existing matter of the world could not have been the motor power producing the present world-process. Whatever changes take place in matter are forms of motion, either motions of masses or of the atoms. But matter has no power to move itself. It possesses no spontaneity of action. An essential idea of matter, necessary to all scientific dealing with it, is that of its inertness. If a mass of matter could start itself into mo-

tion, or bring itself to a halt, or alter the direction of its motion without the action of something outside of itself, no science of it would be possible. "Whatever matter is," says one of the most distinguished men of science of our day, M. Léon Foucault, "physics should always introduce it into its calculations only as a coefficient of inertia."

In whatever condition and position, then, matter originally existed, in that it must remain unless acted on by other agency. If at first at rest, it must always have remained at rest, so long as no cause from without disturbed its equilibrium. This is a general, universal truth.

Why did this primal nebula stir at all from its state of universal diffusion and begin at a certain time to consolidate? Now, the scientific materialist who dispenses with a Creative power usually supposes that originally the whole immensity of space was filled with nebulous matter of uniform density or rarity, and each atom of that matter was endowed with homogeneous kinds and intensities of force diffused uniformly. But in that case all force with which such an infinite mass of absolutely homogeneous matter was endowed would act in all directions alike, and would consequently produce no result. In such a system nothing has weight, for there is no attractive

center. Heat and light would be impossible, conditioned as they are upon unequal vibrations, different media, and diverse molecular arrangements. Electricity and magnetism, likewise, for the same reason, would lie torpid. For the manifestation of physical activities and changes there must have been in the world-nebula a considerable primary differentiation, not due to the laws of matter as such. For the condensation of the nebula, in the first place, there is implied a differentiation between the nebula and the vacant, external space. And secondly, to cause the rotation of the nebula there is required either an original rotary impulse or such diversity of form or substance as would occasion revolution. For the primary steps, then, of the evolution process, the consolidation and motion of the heavenly bodies, a cause external to the nebulous matter must be supposed.

“But why,” the scientific materialist will probably here interpose, “do you suppose primal matter originally to have been in repose? That is a gratuitous assumption. Should we not rather conceive matter as a substance never at rest but always in motion, from all eternity; and in that case its inertia would assist in maintaining it in motion?”

Doubtless that is a more probable supposition. But now let us consider the bearing of well-known scientific laws on this. The scien-

tific facts of the expenditure of motion show that if material motion, unsustained or recruited by anything else, has been going on from all eternity, the motion must have been in this infinity of time either destroyed or rendered infinitesimal and inappreciable. In virtue of the laws of energy, the stock of working power in the universe is constantly undergoing exhaustion. Heat diffuses itself in all directions in frigid interstellar space. Magnetism and electricity radiate on all sides. Pressures balance themselves against pressures. The effective energy of the universe is continually, therefore, divided and subdivided into insensible quantities; the opposed forces more and more neutralize each other; and the working power of these balanced energies is now lost. Potentially the sum of force may remain the same, but practically it is expended more and more beyond all natural recovery. Within our planetary system, the bulk of space filled by active material bodies, like the sun and the incandescent planets, capable of radiating energy, is only, as in comparison with the sphere on whose rim Neptune revolves, as one to many billions, and even if the whole of this planetary system were filled with active matter and energy, it would be only as one to eleven trillions in comparison with the immense sphere of interstellar space between us and the nearest fixed

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star. According to physical principles, the immensely preponderant interstellar space where matter is so thinly diffused must suck away and consume the working energy of the solar system. In a sufficient time it would be entirely consumed. Infinite time must be sufficient.

If, therefore, motion has been going on from eternity, and the working energy of the universe has been subject to this infinite expenditure, we should behold a universe totally different from this present ever-bubbling fountain of force. We should find it, through its universal and torpid equilibrium, sunk in a sort of living death. It would be, as an able man of science has well described it, "an immense tomb, as it were, where would sleep the frozen forms of existences and the germs of extinguished life."

Thirdly, the hypothesis of the eternity of the cosmic motions leaves open also the equally pressing question, "Who or what *directs* these motions?" Nature exhibits the atoms to us not as heaped together at random, not as flying about aimlessly and purposelessly, but as continually guided in certain paths and arranged in orderly groups. From the primitive diffused state they are concentrated into orbs, marshalled geometrically into crystals and cells, and built up into plants and animals.

What directs them in these processes by which they acquire such new properties and perfections? Taine says that it is by "the blind instinct of artist Nature." What bolder self-contradiction! If Nature be blind, it is no artist. The very condition of art is conscious purpose, harmonious aim. There is a serious question here which naturalism must solve if it would make itself acceptable to human reason. Assuming nothing more than inert matter and eternal motion, how shall we account for the *direction* of the atoms in the manifold, various, orderly, and artistic—yes, wisely did Taine use that word—the artistic processes of the world? Is it at all probable that merely material motion, unintelligent, incapable of purposive selection, should invariably move to such concordant and ideal results as the world exhibits to us?

And if so, who or what directs it? If we inquire what has directed the course of any particular motion, we shall be referred to some previous motion, and the direction of this will be referred again to some still antecedent motion. But what directs the first motion or the series as a whole? Can we conceive it as *self-directed*? Bear in mind, as you must, that this first motion, or whole series of motions, is, by the very hypothesis of the materialist, destitute of any such sensation or emotion as

would stimulate to a single tentative movement; it is devoid of the will able to make an effort, and is altogether without the consciousness by which it might understand at what particular time or in what particular place or direction of space to make it. Ask yourself if, in these conditions, you can conceive of this motion or series of motions as directing itself. On the contrary, the conception of unintelligent motion directing itself is inconceivable to an intelligent mind. Even if matter be supposed to be possessed of locomotive energies and to be in motion from all eternity, the fit and orderly *direction* of that motion requires a cause superior to it.

For energy itself has no directivity resident within. Its antecedents propel it intensely or weakly, according as it is full or partially stocked. But they do not account for its taking one path rather than another. Energy by itself is like a runaway automobile, moving onward where circumstances permit it, and sooner or later, inevitably arriving at ruin or a full stop. Wherever it moves successfully and continuously we infer that there is an intelligent guide at the lever.

For the cause of the motions and changes of the universe there is only one source to which we can look,—the forces of Nature.

Now if we look at these forces in reference one to another, we discover most significant relations between them. We find them melting one into the other, converging toward a single principle hiding itself within these varied and shifting phases. A force starting as gravity may shift into heat, this into electricity, electricity into light and sound; these in their turn, acting on the living creature, transform themselves into nervous, muscular, and cerebral motion; these raise again the fallen weight, and the circuit again is ready to recommence. And in all this cycle no force has been lost. Diverse as their successive phases have been, they are but modulations of one stream of energy issuing from a single fountain-head of power.

Our problem, then, has been simplified, so that instead of a thousand and one particular forces, we have to deal only with one grand cosmic force as the motor power of the universe. What then is the essential character of force? This is the question of supreme interest. For as we interpret force, so must we interpret the whole universe. Can this permanent principle, running through all phenomena, the same yesterday, to-day, and forever, be any unintelligent thing? Can this marvelous unity, weaving daily the web and woof of the universe, be any necessitated, material sub-

stance? Or is it to be owned as an intelligent, free and spiritual Being?

How is it that we become aware of force? Do we perceive it directly in material things? We see the frost-loosened crag topple over and violently bury itself in the plain below. We see the lightning-bolt fall and the forest tree crash suddenly in riven fragments. But we do not really see any coercive energy connecting one of these events with what follows it. We see only a succession of antecedents and consequents. Were the line of events always external to us, we should know nothing of force, only of the succession of changes. It is only when the outward movement impinges upon our senses and we feel its pressure and power, and especially when, in return, we ourselves act upon the outward world and are conscious of the effort of the attempt and that we predetermine the result accomplished, that we acquire the idea of force. Man is ever busy in this exertion of force. He analyzes and combines his sensations, framing at will new ideas, pure creations of his mind. These ideals, under the felt impulse of want or aspiration, he struggles to realize. He remoulds matter. He transforms the face of the earth. The lump of clay becomes a bowl, the iron ore is turned into needles and knives. Man can even tame his own passions and carve his own personality.

Preconceiving the result at which these volitions aim before he puts them forth, he knows his volition as a force effective of that result. That we possess force is at once the lowest and the highest lesson of our experience. It is from the consciousness of our own possession and exertion of it, that we come to know it, and later, when we see outside of ourselves successions of changes in Nature, that we conceive force as binding them together.

This is not only the assertion of common sense and of the general consciousness, but it is the judgment of the most eminent thinkers in philosophy and science. The list of authorities that might be adduced here would include the foremost names of recent times, such as Prof. W. B. Carpenter, John Fiske, Professors Cope, LeConte, Schiller and the Swedish naturalist, Bunge. Especially noteworthy is the testimony of Herbert Spencer. In discussing this very point of the real nature of force, he emphatically says: "The force by which we ourselves produce changes and which serves to symbolize the cause of changes in general is the final disclosure of analysis."

With equal positiveness Prof. John LeConte, the noted geologist, once wrote: "We cannot conceive of phenomena without force or of effects without cause, because we are intensely conscious of being ourselves through

our wills an active cause of external phenomena.”

In further confirmation of this view I may appeal to the distinguished physiologist, Bunge, who advocates “interpretation of what transpires in the external world of material organization by our experience of causation in the internal world of our own consciousness.”

Our persevering analysis reaches, then, this noble result: that the grand cosmic Force, the motor power of the universe, must be connected with will and intelligence, of which it is a function and expression. Inasmuch as this energy and outflow is infinite, the fountain head of power must be equally infinite. It must be no less than an all-powerful Spirit and eternal Mind, of which the diversified phenomena of Nature are simply the manifold phases.

Just as from the sun constantly flows forth the ever-renewed photosphere of heat and light, making known the hidden fount of energy within, and just as the human body is moulded and quickened by the inner soul—so out of the secret bosom of the Almighty the outward universe is developed and guided, a glorious organism by which the Invisible makes himself visible. With fascinated awe we see how He manifests in astronomic space the miniature of his stature, in geologic time some fragment of his eternity and in the cosmic order some

shadow of his constancy. In the plants He discloses a little of his living activity and in seeds somewhat of his creative energy. In the flowers He reveals some reflection of his beauty, in bird-song something of the divine music, in the higher animals the dawning radiance of his sensibility and intelligence, and at last in man He incarnates himself most fully, displaying his higher attributes, thought, righteousness, self-consciousness and self-directing will.

CHAPTER III

ATOM AND SPIRIT

In the preceding chapter I have presented the reasons why philosophic minds find in the great energies of the universe the varied activities of a Divine Mind and Will. Objections, of course, have been brought forward to break the force of this argument. One of those most often urged is that to assume such an identity between the forces within humanity and those without as I have advocated would compel us to endow the falling stone with consciousness and even with a sense of muscular tension.

But scientific speculation itself is moving fast toward more or less similar conclusions. In the alembic of modern scientific discovery and analysis the old-time material particles, hard and dead, have become every year more immaterial. The infinitesimal atoms have been dissected by Prof. J. J. Thomson and his fellow electricians into planetary groups of corpuscles or electrons, thousands of times smaller than the atoms and still further beyond ken of even the ultra-microscope that can catch the gleam of particles which are only one

two millionth part of a millimetre in diameter.

When it is asked what is the nature of these infinitesimal electrons constituting the atoms, the experts to be sure, quite disagree. One school surmises that they are condensations of that primitive substance, the universal ether which fills all the interstellar and interatomic vacuum. Another school says that all we know of them is that they are electric charges or centres of negative electric force. If they themselves are not altogether immaterial, there must be between them, and as their still minuter components, some positive substance which is even less material. Thus the deeper science goes in its search, the more transcendental and mysterious does the substratum of the cosmos appear.

The life in living things, the sentience in animal organism and the mind in human beings are facts. They cannot have come from nothing. What is the most rational explanation of their origin?

Modern Theism most cordially accepts the theory of evolution as the method by which suns, worlds and all their denizens came into being; but it holds that a Supreme Conscious Life has been and is the guiding power of this developmental process. A dominant Intelligence is the superior Power to which matter and force have been the instruments. It is a

Creative Spirit, fully equipped from the first, that has patiently worked through countless ages, moulding the forms of the universe, charging matter with life and mind, developing species and unfolding and guiding all the varied developments of the cosmos.

The materialistic Monism that is now fashionable takes up, on the contrary, an opposite view. There was, at first, it maintains, no conscious Divine Mind, but only the latent life and mind, the vital and mental germs within the primal nebula which gradually, by certain atomic interactions, became unlocked and developed into feeling, will and thought, as the organic material forms, of which they were the superior sides, were elaborated. Life and Intelligence did not exist as potencies earlier and superior to the original world-stuff that cradled all, but they were later and derived products, phosphorescent gleams and glows, mystical lights and glories, somehow attending the chemical groupings and reactions of the corporeal atoms.

Prof. Ernst Haeckel and other scientific theorists of the day maintain that the earliest living forms were spontaneously generated from a protoplasmic slime, not yet endowed with life; it was by the interaction of ordinary matter and energy that this was accomplished. Every atom has a potential life and feel-

ing, and every cell a rudimentary sensibility or cell-soul. The attractions and repulsions of gases and chemical elements are elemental likes and dislikes which bespeak latent will and sensation. It is from such embryo vitalities and intelligences, in each crystal and salt and electric circuit, that scientific Naturalism supposes the marvelous endowments of bee and bird, mathematician and inventor to have arisen.

Which of these two views, then, supplies the more rational explanation of the beginning of things?

Let us try to realize in thought this theory of the materialistic Monists—that the cosmic Life and Mind existed at first only in a germinal form. What insuperable difficulties does such a conception present to thought! Think of all the harmonious laws and co-ordinations that Nature presents; the mutual ministries of flowers and insects; the wonderful pairing of masculine and feminine organs and instincts; and the coincident mathematics of planets above and plants below. How absolutely unequal to these wonders of the vegetable and animal kingdoms is the supposition which maintains that originally there was in the world as the source of these marvels only a rudimentary mind and a germinal will!

Many as have been the sarcasms cast at the

Theistic theory of the Divine Being as a "carpenter God" who made the world as a hewer of wood makes a house, nevertheless it seems to me a more dignified and more rational view than the fanciful theory of the Infantile Gods, these embryotic, atomic Deities, toddling and lisping in their world-cradle, in which materialistic Monism would have us believe.

That most distinguished scientific philosopher of the last century, Herbert Spencer, once criticised the Theistic idea of a Divine Mind as before matter and antecedent to the various processes of Nature and governing them, on the ground that it is not possible to conceive of all the actions throughout the universe, all the motions of the multitudinous stars in space, the revolutions of all their satellites and the infinitely multiplied physical and organic processes going on in each of the cosmic bodies as flowing from an originating Mind. The English philosopher seemed to fancy that the multitude and complexity of these processes are too much for intelligence, even an Infinite Intelligence, to manage. Amidst such a throng of intricate details Almighty Mind (he seemed to think) would become distracted. In the presence of such manifold gyrations Omnipotence would become dizzied. In such a boundless field of operations Omniscience would have to neglect a great deal.

Now, of course, no human being can claim with reason to be able to follow out in imaginative detail just how the Divine Mind can personally and simultaneously direct all the movements of the universe. But without hesitation it may be asserted (and a confident appeal may be made to the common sense of any normal man to sustain the appeal) that if there be any inconceivability in supposing a Divine Intelligence that is from the outset free, full, active and perfect, as the cause and guide of the infinite processes of the world, there is certainly a hundred times as much inconceivability in supposing a cosmic Life which for ages was rudimentary, somnolent and infantile, or a cosmic Mind which only gradually awoke to consciousness and grew up to the grade of mental development now correspondent to the amazing phenomena of our cosmos.

And if there be inconceivability in the best ideas man can form of a guiding Mind as connected with the evolution of the world, and if there be difficulty in realizing in thought the Theistic conception of a consciousness, antecedent to the myriad movements and complex processes of the Universe and directive of them, there is surely a thousand times more incredibility in the chance grouping of atoms, in the undirected dance of molecules, or the blind pushing and pulling of unconscious forces as build-

ing up the Kosmic Temple, fulfilling in it, as it has, ideas of the purest reason and the profoundest wisdom, but none of them intended; carrying the grand world structure up from story to story, from detail to detail in a matchless harmony of ideal finish, yet all un-planned; element adjusted to element, force tuned to law and law fitted to life, yet the whole brought about without foresight or reasonable direction—certainly this is the most amazing of incredibilities! Inert matter, sightless motion and unconscious force equal to unfolding and guiding a universe, but a Divine Mind not equal to it! If anything that distinguished writers propose may without hesitation be called nonsense, surely this deserves the brand.

As the source and guide of the stupendous powers and marvelous activities of crystal and cell, star-reaching light wave and cosmos-questioning brain, we can look at no lower source (if we would escape the pit of irrationality) than the Theist's hypothesis of a full Consciousness and Will at the heart of things. That grand current of force that sweeps through the varied mechanisms of the world, keeping all its million wheels in motion, must be the manifestations and effect of nothing lower than an Infinite Will. If this is a groundless conclusion, then the conception of our own muscular and mental efforts as manifestations

of the intelligent will within the human being must also be pronounced a groundless conclusion.

But (it is further asked by certain philosophic critics) is it not an extravagant demand to require us to infer that volition causes all these multitudinous activities of the world just because it causes some one particular thing?

As Hume long ago put it: "What peculiar privilege has this little agitation of the brain which we call thought that we must thus make it the model of the universe?" Why should we leap from this single instance of mental causation to a universal truth? Because, I answer, it is the one case where we get a direct interior view of force, all other cases affording us only indirect, external observations. In this one instance we are admitted, as it were, behind the scenes. Suppose that some wonderful moving statue, which at first we had only gazed at from a distance, we were allowed at length to touch and then, in that touch, felt a living human being within. Suppose that there was a marvelous automatic figure at whose intelligence all the world had wondered, but suppose that, after a while, a glimpse had been obtained of its interior and it was seen to be actually worked by a man. Shall we be accused of illogicalness in henceforth interpreting these outward manifestations of the apparent mech-

anisms by the one inward glance which we have enjoyed? If we accept the physical theory of mind which these scientific objectors maintain, then mind is not to be looked upon as one force out of many, but as an aspect which all the forces of Nature assume when they pass through the brain and are viewed from within. Whether the force be gravity, heat, light, sound, magnetism, electricity, or chemical affinity to start with, yet as soon as it strikes the nerve and runs up in its vibratile course to the brain it draws back the material veil and discloses clearly in that place and for that moment, however brief, its sentient character and mental qualities. Have these repeated inward glimpses into every material energy, revealing successively in each a spiritual side, nothing that may serve to give a new interpretation to the external aspects of these forces? As well say that the judgments of eye, touch, and smell, which a mock wax apple may have fraudulently secured, ought not to be corrected by any evidence of the mouth that has tried to eat it, because taste is but one sense out of three. One bite into the centre of a lump of painted wax is all-sufficient, both practically and logically, to remake our judgment of it. And so one mental state, one inward experience of a physical force is enough for a new interpretation of that force.

The very school that objects, in regard to the interpretation of force, to any generalization from a single instance, conspicuously employs the same procedure and defends its logicalness in its scientific researches.

The epoch-making discoveries of the radioactive elements and the astonishing revolution in chemical knowledge and theories that have resulted from the researches of Madame Curie and her fellow workers in this field depend chiefly on logical inductions of this same nature. They are generalizations from a single kind of chemical element. In fact, what other ground is there for believing that the animals with whom we play, the neighbors with whom we talk and the friends with whom we live are not automatic machines, but are feeling, thinking and willing beings like ourselves, except this same assumption, that when we observe in them operations and activities similar to our own, the cause in each creature must be of the same psychic type as we know it to be in ourselves.

That force originates in will is, then, that which the inward view of it, given by consciousness, attests; and this is also what the facts of the world require. They demand that the primary unit of the world, the single cause of all things, be something capable of originating movement, directing it and creating life and

mind. The principle of causality demands not only some cause for these phenomena, but a sufficient cause. Now, no material cause is capable of producing the phenomena of the world. Mind alone has the power of originating changes. Mind alone can be conceived as producing mind. The effects cannot be more precious and elevated than the cause. The scientific laws of the correlation and persistence of force imperatively require that the highest term should exist from the first. Force can mount through every stage of life only by being constantly impelled and renewed from a fountain at least as high as the highest level to which it throws its waters. "Materialism," as Papillon, the eminent French *savant*, once well said, "is false and imperfect because it stops short at atoms in which it localizes those properties for which atoms supply no cause. And because it neglects force and spirit which are the only means that we have, constituted as our souls are, of conceiving the activity and the appearings of beings; . . . the source of differentiations cannot be in energy itself. It must be in a principle apart from that energy, in a superior will and consciousness, of which we have doubtless only a dim and faulty idea; but as to which we can yet affirm that it has some analogy with the inner light which fills us and which we shed forth from us."

Such are the lofty inferences to which the strictest philosophic laws and the most modern scientific facts and investigations point. And equally inspiring, to the sensitive mind, are the suggestions of Nature. What else gives to any inspiring landscape its inimitable thrill except this communion with the Unseen Sublimity behind it?

“Only after celestial observations,” Coleridge somewhere says, “can terrestrial charts be constructed.” We can comprehend the earth and the fascination of art, and we can understand the full grandeur of Nature only when we look at it with the penetrating lens of spiritual vision.

To see in the tints of closing day splendors which jasper and beryl only faintly suggest, we must look with a more penetrating gaze than the eye of flesh and blood. To find in the blushing rhodora assurance that “Beauty is its own excuse for being” and in the meanest flower that blows “thoughts that do often lie too deep for tears,” we must enter into that higher mood of the spirit, wherein we may become conscious of relations to an immaterial and diviner sphere. Apart from this the woodland flower is but a colored weed and the most glorious sunset only an ephemeral play of optic laws.

In one of the noblest passages of Words-

worth's "Excursion" he describes in lines as exalted as they are beautiful the reverent emotions which came to the poet as a growing youth

"when from the naked top
Of some bold headland, he beheld the sun
Rise up, and bathe the world in light! He
looked;—
Ocean and earth, the solid frame of earth
And ocean's liquid mass, in gladness lay
Beneath him. Far and wide the clouds were
touched
And in their silent faces could be read
Unutterable love. Sound needed none,
Nor any voice of joy; his spirit drank
The spectacle. . . .
In such high hour of visitation from the living
God
Thought was not; in enjoyment it expired. . . .
His mind was a thanksgiving to the power
That made him."

In such an experience as this, whence come this beauty, this solemnity, these divine suggestions that so subdue the soul? They are not contained in any of the physical features of the scene. On the retina of the body there are only certain lines and forms and splashes of color—just the same on the retina of the impassive sheep as on the retina of the entranced poet or artist.

These heart-moving sensations are only to be accounted for by the conviction that he whose soul discerns these grander beauties and sublimer truths is not the victim of delusions, but by a certain spiritual insight has penetrated into that rational order, into that living power and eternal grandeur which form the genuine essence of all these outward spectacles.

CHAPTER IV

PURPOSE IN NATURE

Wherever man has observed Nature carefully, he has found it full of apparent adaptations and ingenious arrangements, so useful, so rational, so admirably shaped to accomplish certain ends, that they irresistibly suggest to the investigator that there must have been an intelligent purpose in their structure.

Every department of knowledge discloses to us more or less of these noticeable co-ordinations. In the Orchid family, how curious are the complicated contrivances in certain species which Charles Darwin has so well described, for securing the transportation of the pollen from one flower to another. To accomplish this purpose, so necessary to the perpetuation of the species, baits of nectar, lustrous by day and odorous by night, are provided to tempt the moths to enter the flower. Then, when they are once within, there are guiding ridges to compel the insect go-betweens to pass certain spots; there are adhesive plasters, nicely adjusted to catch their brows and deposit on them the pollen, and there are even hair-triggers, connected with explosive shells,

carefully set where the insects must discharge them and cause the fertilizing yellow dust to be shot out upon the bodies of the moths and thus be carried across to the pistils on the neighboring flowers that need it to quicken and ripen their seeds.

Or think of the wonders of the human ear—that harp of literally thrice a thousand strings; think of the prospective contrivances for the use of many animals which are provided long before they are wanted; or the eyes of the child moulded in darkness, and the lungs fashioned and prepared where there is no breath of air. Recall the gauze-like wings and thread-like antennæ of the gnat folded in the chrysalis beneath the water, in readiness for the time when the mature creature shall mount into the air above.

These are but a few out of the thousands of cases of marvelous adaptation that Nature presents. I have not space to give even the barest outline of the multitude and wonderfulness of these instances of constructive skill in Nature, in comparison with which the most skillful mechanisms of human ingenuity are but coarse and clumsy contrivances.

What is the explanation and significance of these apparent adaptations in Nature?

A century ago, there was but one answer to this question that seemed reasonable. Paley

and the Natural Theologians of that day made diligent catalogues of these natural contrivances and founded upon them what they believed to be irrefutable arguments for an Intelligent Creator, a Divine Designer of these marvels of Nature. The leaders of science generally accepted this argument from Design. But fifty years ago, with the publication of the *Origin of Species*, a great change in the scientific attitude was initiated.

In these modern days the Universe has been found not to be a structure or a machine made at first in its present shape, as Paley supposed, but it is a growth, "an evolution." The same is true of every living form upon our earth. The new born babe is the culmination of a million previous steps and experiments by Nature. The duck that toddles from its fresh-broken shell into the water and strikes out as if it were an old sailor is the embodiment of the experience of a million ancestors. All the wonderful organs and complicated structures of the vegetable and animal world have arisen by successive differentiations from previous forms, each of them as we go back, simpler and simpler.

This process has resulted from a few necessary laws. Such are the laws of heredity, variation, multiplication, struggle for existence, or natural selection, the struggle for

desired partners, or sexual selection, and the law of vital adjustment of the plastic organism to the pressure of the environment. The unavoidable issue of these laws, it is claimed, is the accumulation of every favorable variation in animal life and the consequent ascent of existence to higher and higher degrees of perfection, till the realm of life (either by a series of happy accidents or as a necessary result) has attained to the present wonderful co-ordination and apparently purposed adaptation to certain rational ends.

In view of these laws and what they have done and are doing, what justification is there any longer for that "Magician of Nature"—as Strauss called the idea of Design—"that turns the world topsy-turvy?"

Professor Haeckel hails Darwin with exultation "as the Newton of a new era who has established the purposelessness of Nature."

Now I freely admit at the outset that the Design argument has often been stated in a coarse, narrow and irreverent way which may have deserved the sarcastic phrase, so often applied to it, of the carpenter theory. I freely admit that the facts and arguments established by modern science modify very materially our view of Nature and the manner in which its varied forms come into existence. But do they authorize us to dispense with the idea

of purpose? Do they make the conception of an intelligent Mind, as the most rational source of intelligent adaptations, an invalid conception?

Evolution and the discoveries that its keen disciples have made bring out to view in the pedigree of every special species or organ a long line of transitional forms, exceedingly indirect routes and a multitude of intermediate steps, through which each organic form in Nature at the present day came into existence. Neither eye nor ear nor foot was made perfect at the outset. The bird's wing was originally a reptilian leg. The arm of man was formerly used to walk with, before our quadrupedal ancestors tried to stand erect.

Even now the human embryo goes through transformations that successively recall the marine and mammal and simian ancestry through which man has ascended to his present place at the head of living beings.

In the flounder the eyes start on opposite sides of the head and then one passes across. In the whale there are rudimentary teeth that begin to form only to be absorbed; and in man there is that particularly troublesome appendix that seems to have no earthly use except to furnish big fees to the skillful surgeon who has discovered how to cut it out in safety.

How can such awkwardnesses and imperfec-

tions in Nature be reconciled with any rational purpose?

If the world (as a scientific friend incisively asks me) had a Creator, or its organic forms were moulded into their present shapes and conditions by a reasonable Being, would he begin to make a one toed horse by first making a five toed creature that climbed trees? To produce a hen, would he start out by making eggs? Or when this Creative Power wished to make a man, would he, instead of aiming and working directly toward the goal, begin at the bottom of the biologic series by making an ascidian and then change it into a lemurine creature or some other lower animal and then transform that into a simian, and so, by a lengthy circuit, develop the human being, retaining in him numerous survivals of his past which now are apparently quite useless?

These satiric queries are undoubtedly telling. But do they necessarily compel us to infer absence of purpose, which is the conclusion drawn by Professor Haeckel?

How is it with a large part of the most rationally planned human work? Does it not accomplish its purpose by decidedly circuitous methods? It is notorious how the iron-moulder begins by making the sand matrix and then breaks it and throws it away. The engineer who builds a stone arch, first puts up the false

timber work and then, when he has got his stones in place, pulls down his first wooden structure. Shall we say that the engineer and the iron-moulder have no plan? A tailor keeps in his fashionable dress coat quite a number of utterly useless features—the slits in the collar, the division in the tail, the buttons adjacent, and other useless features—mere survivals of the days when that kind of a coat was worn out-doors, the collar turned up and a sword projected behind from the divided coat-tail.

In our English language how many silent letters are there, of no use whatever except as historic monuments of the former spelling and the course of linguistic development!

Shall we say therefore that there is no purpose in the work of the tailor and printer and that intelligence has had nothing to do with the evolution of language or costume? Is it not possible that the Intelligence that works in Nature may have a similar historic or esthetic sentiment? Is it not possible that the Divine Mind (like human minds) may choose to make circuits provided he can thereby accomplish his ends more easily?

But, it will probably be urged, do not such explanations and excuses imply a lack of Omnipotence in God and an absence of perfection in his work such as a Theist can not admit?

For my part, I do not see why a Theist who

maintains that the facts of Nature bespeak intelligence in their source is obliged to maintain, also, that Nature is as yet a completed work or that the Mind, immanent in our part of the cosmos and guiding it, is Omniscient.

While the Theist believes in the existence of a Supreme Being, he may, without inconsistency, suppose that the actual world-building of our solar system may have been delegated to some subordinate Divinity, who, though superhuman and wondrously wise and skillful, was not either All-wise or All-powerful. At least, the thinker who has become an Evolutionist will, if he is consistent, never regard that stage and state of Nature in which we now live as a finished result beyond which there is to be no more progress.

On the contrary, as the Carboniferous Era was only an introductory stage, not to be criticised as intended to be complete, but to be estimated rather in relation to the higher developments of life that were to come by and by, so even our present cosmic epoch should properly be regarded as a transitional stage whose whole significance is only to be understood later on, when the Divine Power has more nearly finished his work. As a transitional stage of life, of course, it has its imperfections. But these do not show an absence of all Divine Purpose. The scaffoldings and chips around

a half-built Cathedral are, of course, somewhat confusing and disappointing. But however meaningless to the careless eye, they do not demonstrate that there was no mind or purpose in its building. Wait till it is finished, and then judge. The cosmic Architect works still more slowly and patiently, and perhaps will reveal in the end a still more impressive design. It is too early, to-day, to judge it by its scaffoldings. That would be a sufficient answer to the critics of Theism.

But if it does not satisfy you, try the other alternative. Suppose that the Wisdom guiding Nature *is* perfect. Then is it not just possible that it is due to our finite ignorance and limited understanding that we do not comprehend his vast and subtle purposes?

I think so. The Evolutionists have shown that the wing of the bat was not made at once and was not made simply for that use in flying which it now fulfills. But if we suppose (as we do, on this alternative) that the Divine Wisdom is perfect, why may not such a limitless Mind have intended that the original organ should develop into all the forms it has assumed and should fulfill all the uses which it has actually served. An Intelligence that is infinite, it is reasonable to suppose, could and would have included in his plan, not merely the present functions and services of the animal

organ, but all functions and services which it has been put to in the past or may be adapted to in the future. The plasticity of the organ, so far from being a quality requiring no wisdom to account for it, requires, on the contrary, immensely more explanation than any present structure.

As to the alleged uselessness and absence of purpose in the various relics of past development found in many organisms, might not our men of science, without too great a strain on their imagination, see several very serviceable purposes which might justify them to a reasoning mind? When a savant quotes, as he is so fond of doing, Kepler's great saying "O God I think thy thoughts after thee," might he not turn to these very relics of the past course of the development of life and discover in them the precious sources of instruction to man as to his own history and God's method of creation? They are conditions and aids to human education and the understanding of God's laws, and, therefore, of inestimable value in that which is the great end of life, the development of the soul.

Moreover, they are necessary incidents of the government by general laws which reason everywhere adopts.

If in civilized states government has found it wise to supersede the special fiats

of barbaric rulers by a system of laws strictly general, surely, the observation of a similar system in Nature demonstrates, not an absence of intelligence there, but rather the presence of that higher order of reason to which man has only of late attained.

The discoveries of modern science have indeed shown that every well-adapted organ became adapted by certain anterior means and methods, by a certain variability, heredity, sexual instinct, environing influence and gradual accumulation of advantages gained by the successive generations in the struggle for life.

The method of producing animals supposed by Paley and that which the Evolution theory supposes may be compared to the old and new methods of manufacturing.

In primitive times when a pin or a needle was made, one man made personally every part of it. He gathered the ore himself, melted it in the fire, hammered the lump of metal with his own hand, and rubbed and smoothed it till it was fashioned into the final shape desired.

Now-a-days it is made in no such simple and direct a way as this. Instead of one maker we find scores—perhaps hundreds—concerned in its production. Gang after gang of men, machine after machine, successively put their one or two little touches to it and pass it on. One band of workmen mine the metal; another band trans-

port it; a third smelt it; a fourth cast it into a large lump. Then one machine moulds it into bars, another rolls it into rods, a third stretches these into wires, a fourth cuts these into lengths, a fifth sharpens and points each length, a sixth contrivance heads it, a seventh polishes it, an eighth shakes out every deformed or imperfect pin. At last the completed pin is produced.

The two ways are certainly very different. But because of this difference, the numerous steps concerned in the development of the pin and the many transitional forms that it takes on the way, must we say that nothing planned the pin, that mind had nothing to do with its present shape, that there were only certain mechanical forces that rolled it and pulled it and pointed it and shook out of the hopper everything that was not a perfect pin?

Such an inference would be absurd. And similarly in regard to the bearing of the discoveries of the Evolutionists in the Theistic debate. Believing as I do in these evolutionary methods and laws as well established—nevertheless, what inconsistency is there between them and the supposition of a Superintending Mind that through them effects its purposes?

The purpose, the useful end, comes out at last most clearly. To argue that because we have found out the natural steps by which this

purpose was accomplished, therefore it could not have been intended by any one, is an inference quite uncalled for.

It would be like saying of our pins, we have found out that they are made by ingenious machinery; consequently no intelligent cause had anything to do with them. If the machinery makes the pins, what made the machinery?

Take this plastic power of the life-force, by use and effort, in opposition to physical conditions, to achieve its desired ends, and to grow stronger and more finely moulded, the greater be the demands made upon it—how much more imperative is this, in its demand of a Higher Cause, than is the claim of any secondary cause which matter and its laws supply.

Take the variability of the organism and its amazing capacity of self-adjustment to the new conditions of sea or land or air and its power to hand down by heredity a better body to its offspring—who or what made this wonderful variability? What more eloquent of intelligent prevision than these grand laws?

Or analyze the proposed explanations of beauty and ornament, drawn from Sexual Selection. On what else do they all lean than upon a most curious esthetic susceptibility in all animals (for which the laws of matter supply no account, and of which life has no absolute need), a susceptibility which suggests

rather the beneficence of that Gracious Power who delights in making his creatures happy?

If the various laws that we sum up under the name "evolution" have made the eye and the ear, then we are not excused from looking further back, but, on the contrary, we are at once called to look further back. Who or what constituted these laws of evolution? None of them are efficient forces or ultimate causes.

They are only abstract terms for certain regular events. One of the old jests is the explanation which Martinus Scriblerus gave for the operation of the meatjack. It was due, he said, to "its inherent meat-roasting power."

He who ascribes all the results of evolution to the evolutionary law commits an equally foolish blunder. The fact that there is an evolutionary order and method does not refute the existence of a Power acting through that order. On the contrary, it implies it.

Moreover to assume that, because it operates by general laws, it must be something else than a Divine Mind is an equally uncalled-for inference. Must Omniscience be necessarily capricious and scorn natural chains of cause and effect? Is there any compelling reason why the Creator should be supposed (on every occasion that he moulds a creature or an organ) to start in the clay-pit, at the bottom of the ladder of life, instead of taking advantage of

his previous work as a scaffold on which to build higher? Is it irrational to think of the Divine Mind accomplishing its ends by the skillful combinations of regular laws and forces, using the foundations of his earlier work?

On the contrary, wherever reason rises highest, that is just the way reason manages. And if that is the method of the wise man, why not of the All-Wise Mind that governs the Universe?

I know well enough the subtle objection made by scientific critics, that Purpose and Design are human methods, anthropomorphic conceptions which we are not justified in attributing to Nature because we do not know in advance that Nature has any mind, or if it has, whether it is a conscious mind or an unconscious intelligence.

I reply—if these objections demolish the proof of “Purpose in Nature,” they demolish a great part of modern science. They would discredit Archeology, Egyptology and Assyriology. What do we know of the mind of prehistoric peoples except by the intelligent character of their work, the tools, the pottery, the hieroglyphics they have left?

These over-subtle objections are inconsistent with the daily practice and working principles of all our leading scientific investigators, and

they would overthrow all their results, if they are valid objections.

What is the principle of investigation used by Prof. Wallace in his proof of the intelligence (superior to blind instinct) used by birds in the construction of their nests; or by Sir John Lubbock in his demonstrations of the high intelligence shown by ants; or by Binet in his famous researches on the *Psychic Life of Micro-Organisms*, from which he concludes that they have sentience and probably a measure of choice and effort?

Do they not all have for their principle of investigation and proof that the use of intelligent means to accomplish intelligent ends bespeaks intelligent purpose?

Well, then. If the hole drilled through a prehistoric bone-needle, as an eye for the thread, is claimed by the scientist to bespeak an intelligent intent and intelligent maker of the needle, by what logic is the similar hole drilled through the nasal-bone for the escape of the tear from the eye held to disclose no intention in the Author of Nature?

If the rational character of the cuneiform inscriptions, impressed on Nineveh tablets, assures the Assyriologist of the rational purpose and mind of their makers, why should not the symmetrical and subtle mathematic series, proceeding according to a profoundly rational law

that governs at once both the branching and leaf-arrangement of plants and the orbits of planets, supply some indication of a planful Mind in their Creator?

The only consistent view is that facts speak for themselves; and as, in scientific research, savants daily do infer and have to infer (if they would discover anything) that useful-working combinations of means to ends imply purpose, so in Nature and theological research, also, they imply purpose.

As one who was for many years a foremost leader in science and an early adopter and able expositor of the theory of evolution has said: "A strange contradiction would it be to insist that the shape and markings of certain rude pieces of flint, lately found in drift deposits, prove design, but that nicer and thousandfold more complex adaptations to use, in animals and vegetables, do not 'a fortiori' argue design." *

The distinguished naturalist, Prof. Bunge, says: "The more thoroughly and conscientiously we endeavor to study biological problems, the more are we convinced that even those processes which we have already regarded as explicable by chemical and physical laws are in reality infinitely more complex and at present defy any attempt at mechanical explanation."

* (Prof. Asa Gray, pp. 152) "Darwiniana."

What has enabled Science to penetrate the secrets of Nature? What else but the fact that Nature was not irrational but a rational system. And as it is a rational system it must be the manifestation of Reason, the work of a purposing Mind. Intelligibility in the effect implies Intelligence in the cause.

The further Science penetrates into the secrets of the Universe the more regular seems the march of thought presented there.

The eminent physiologist, Oscar Hertwig, has not only pointed out the insufficiency of physical and chemical energies to explain the vital properties of the cell, but he maintains that the facts indicate something that looks like intelligent action. "The nature-process resembles a process of thought." *

In the leading orders and species of living creatures there are found certain ideal types characteristic of each, variously modified but never forgotten. Prof. W. B. Carpenter, in tracing the life history of the Orbitolites, a highly specialized species of Foraminiferæ, says "it seems to me impossible not to recognize the fact that the evolution of this type has taken place along a definite course, every stage being one of progress, and each being, so to speak, a preparation for the next." And Natural Selection, he affirms, "gives no account of

* Die Zelle und die Gewebe: p. 258.

the changes in the plan of growth which carried the Orbitolites forward, evolving steadily calcareous fabrics of ever-increasing complexity."

Again in the evolution of the respiratory apparatus from the swimming bladder of the fish to the lung of the mammal, Prof. Carpenter finds it undergoing a uniformly progressive elevation of type, which he regards as showing a preordained plan. "The doctrine of Natural Selection," he affirms, "fails to account for that general consistency of the advance along definite lines of progress, which is manifested in the history of Evolution." *

These cases that I have mentioned are only two out of many.

In the striking instance of the electric organs of the skate, even Prof. Romanes was obliged to admit that the facts of the case "assuredly do appear to sanction the doctrine of prophetic germs." The electric battery in the skate, although now so feeble as to be of little practical use for defence to its owner, does seem to be on its way towards becoming such an organ as the electric batteries in the *Gymnotus* and the *Torpedo* fish. And accordingly Prof. Romanes admitted that "the facts do present a serious difficulty to the theory of Natural Selection, while they readily lend

* "Nature and Man," p. 463.

themselves to the interpretation of a disposing or foreordaining Mind that knows how to construct a battery by thus transforming muscular tissue into electric tissue."

Note another significant thing. The course of Nature has been found to be not an aimless, fruitless motion, alternately rising and falling, or moving round and round in unprogressive circles. It is, in scientific phrase, an evolution, i. e., a progress. And if often a natural series seems to return to its point of beginning, we find on examination that it is on a more elevated plane. The path is a spiral, moving steadily higher and higher. If occasionally there is degeneration, on the whole the course of Nature is steadily upward, toward higher types—i. e., organisms more and more infused with mind, the material forms increasingly saturated with spirit.

Now, this upward course of Nature can only be explained by a Divine Purpose. Utility in the struggle for existence does not explain it. For to an earthworm or an oyster, the structure of the vertebrate is of no advantage. Accident does not explain this progress. Chance pulls in every way—not steadily upward. Chance pulls down quite as often as it builds up. Chance writes no such intelligent dramas, going upward from all beginnings in orderly crescendoes to rational climaxes.

How the one Power of the Universe should have pursued the path of evolution, moving steadily from molecule up to monad, and from monad to mammal and from mammal up to man, from the non-living to the living and from the apparently unconscious to the conscious, for millions of years, unless from beginning to end the process was dominated by a Purpose and by the Intelligence that alone has purposes, this is inconceivable.

The reasonable mind must recognize that the history of evolution is that of a consistent advance along definite lines of progress and can only be explained as the work of a Mind in Nature. Is there any way of escaping this obvious conclusion? The only way that has been suggested is to refer these harmonies of Nature back to the original regularity of the atoms or the electrons. As drops of frozen moisture on the window pane, build up the symmetrical frost forms, without design, by virtue of the original similarity of the component parts, so do the similar atoms or electrons without plan or purpose build up the harmonious forms of Nature.

But this explanation confronts the thinker with a still more significant objection.

Why are the atoms or electrons thus regular and similar? Here are millions on millions of atoms of gold just alike. Here are millions

on millions of atoms of oxygen,—each with substantially the same weight, size, velocity of vibration and chemical qualities, so that we can take out one billion of them from a chemic compound and put back another billion and they combine and behave in the same way.

Again, all the trillions on trillions of atoms on the earth are not of infinitely varied shape, weight, size and chemic quality. But there are only seventy kinds (or less) of atoms; and all the myriads in one chemic species are substantially alike—so that each successive atom of oxygen that comes to a burning flame does the same work and behaves just like its predecessor and its successor.

How can this marvelous identity of the atoms be explained? Certainly not by chance nor struggle for existence. Among the atoms there is no heredity, no vital competition, no natural selection nor sexual selection to account for this. Those two great scientific thinkers of the last generation, Sir John Herschel and Clark Maxwell, after long pondering on these curious facts, declared that the only reasonable solution was that the atoms were marked by the essential characters at once of manufactured articles and of subordinate agents.

The latest scientific discoveries give a differ-

ent but no less significant answer. The brilliant and epoch-making work of Prof. J. J. Thomson and his co-laborers refer back this regularity of the atoms and their chemical qualities to the still smaller corpuscles or electrons (each carrying its characteristic electric charge), of which each atom is composed; and it is thought that the primitive types of the elemental substances may be less than half a dozen. It is from these few primitive types of ethers and electrons, corpuscles and atoms, with their original potentialities, compounded and re-compounded into more and more complex combinations by a few regular laws and forces, that the universe has grown up from the primal nebula or ether ocean into our present world.

But in the light of this wonderful simplification of the elements, with which the cosmos started, is not the argument for a Planful Mind, indwelling in the world and directing and pushing on its development, stronger than ever?

Who or what organized this marvelous cosmic embryo, with its co-ordinated elements and latent forces, skillfully adjusted so as to develop into our Universe? The agency of Mind and Purpose in Nature is not dispensed with. It is only pushed further back, or rather, farther in. It is shifted from the particular to the general, from the special structure to the laws and atoms, ethers and electrons that

formed the primal cosmic cell and vital nucleus of all. It is driven inwards from the assumed outside Mechanician (occasionally or originally active) to the "interior Artist," the indwelling Life and Mind constantly quickening and moulding from within all parts of Nature, to whom logical thought must ultimately come.

The question recurs: "Whence came this primitive tuning of electrons and atoms to rational laws? Whence came this harmonious adjustment of plastic life to changing conditions, this ordering of the myriad forces of Nature into one column, moving steadily toward a single objective, the development of conscious life in the cosmos?"

This superb symphony of Nature implies a "Tone-Master" as its cause. It implies an ever-ruling Purpose and Superintending Mind even more strongly than the most ingenious structure of eye or ear does.

As Prof. Huxley was forced to admit,—
"The more purely a mechanist the speculator is and the more firmly he assumes a primordial molecular arrangement, of which all the phenomena of the Universe are consequences, then, the more completely is the thinker at the mercy of the advocate of Design in Nature, who can always defy him to prove that this molecular arrangement was not intended to evolve the

phenomena that has been evolved in the Universe."

Certainly, the original arrangement of the atoms of the Universe might have had any one of an infinite number of original dispositions. Every different original arrangement of the atoms would have produced a different Universe corresponding thereto. That out of this myriad of possible primitive arrangements of the atoms and possible universes just this particular atomic structure and arrangement was chosen which, in its gradual and necessary unfolding, would work out the present admirable world which we see—what a marvelous forethought and amazing wisdom of purpose was needed for this!

What a Supreme Reason and far-reaching Purpose that could marshal this countless host of electrons and atoms and this infinitely complex system of interwoven laws and appropriate faculties and capacities, and march them through the immensities of space and down the measureless vistas of time straight to their goal in the grand world climax of to-day! Verily, Omniscience alone is equal to such a marvelous consummation.

Nature can not give what it does not possess itself. Unless there be reason in the source of Life, reason could never evolve in the scientific student of life. No law can unfold in the

upper planes of life that which was not in-
folded in the lower planes. Evolution has
shown the mental and spiritual in man to be a
normal product, an integral part of the Cosmic
Life. Its manifestation in humanity implies its
presence throughout the Whole. Human con-
sciousness is the one place where we get an
inside view of the Reality of things. The only
things we do not infer, but directly know, are
our own sensations, will and thoughts. As the
one part of the cosmos that we directly know
is conscious life, therefore logic and analogy
justify us in assuming that the rest of the
cosmos, the grand organism of the universe,
is also (at least on its superior side) a Con-
scious Life, and like other conscious life thinks
and acts with purpose.

As we watch the Universe from the outside
it may seem all mechanics and material instru-
mentality. But as, with the eye of philosophic
reason, we look within, we see that there is
everywhere attendant Mind and directing Will.
The laws of Nature are but the habits of that
Divine Will; species and races and the decay
and birth of worlds are the projections of
God's thought on the screen of space, as he
silently initiates, quickens and superintends all
in accordance with his eternal plans.

In obedience to his tyrannical bias by "the
things seen" the materialist tells the Theist

that he has no right to believe in such a thing as cosmic purpose and thought until the theist can show the materialist a titan brain somewhere in the stellar universe.

It is a subtle argument, which to some seems invincible. But may not the believer in God with still greater cogency reply (as Martineau has so well retorted): "Lift up your eyes to the arch of night and look upon the shining firmament as the brow of the Eternal. See in the wheeling suns of the celestial galaxies, the vibrating atoms of some infinite cerebral circuit. See in its constellations the molecules and brain cells of the universal consciousness." Yes. The theist may with entire legitimacy recognize in its ether waves the subtle currents of the Omniscient Thought; and behold in the great drama of Evolution the gradual unrolling of some scant portion of the "Autobiography of the Eternal Spirit" on the great stage of infinite Space—that eternal Spirit in whose history a thousand years are as one day, and nebula and galaxies are but evanescent sparkles of his Living Robe. This garment in itself has no original or independent power. It is only to the outward eye that it seems so. To the inward eye it is the pulsing blood and flesh of that Infinite Life who moves and breathes in all things that have the semblance of reality.

CHAPTER V

LAW AND PROVIDENCE

One of the most difficult of all questions, but also one of the most important and far-reaching, is that which concerns the methods by which the government of the universe is carried on. Does it move by law or by love? Is the course of Nature invariable, or is it from time to time miraculously modified? General or special action, immutability or mercy, physical fatalism or Providential privilege—which is the block in this ancient puzzle that we must put in the center to supply us with a solution?

The common solutions are two—the method of science and that of generally accepted dogmatic faith.

Dogmatic faith takes the grace and special Providence of God and ignores law and invariable order. Science adopts natural law and the unchanging connections of the physical energies and processes and ignores Divine volition and good-will.

Dogmatic faith says: God is good and comes again and again to help forward his creation in its onward progress. He comes in with his creative power and introduces new

species and new revelations. When evils appear in the world he personally rectifies them and punishes their authors. He cuts short the wicked in their sins. He saves the virtuous from the pitfalls of wicked foes. He takes possession of the faculties of chosen men to impart to the people his revealed will. He interrupts the laws of disease, gravitation, birth and death to bring a favored nation safely out of captivity and convince the world of the authority of certain chosen messengers. He sends an earthquake to engulf a Sodom, or a special calm to save the sinking boat of the holy. If a saint prays to him the Lord will arrest, till the saint passes by, the avalanche that is about to overwhelm him.

Directly opposed to this orthodox theory of the Divine Government is that which science advocates. According to the teaching of natural knowledge, physical forces determine everything, and those forces are always the same; they act in the same way and produce similar results whenever the conditions are the same. There is—there can be—no chance nor miracle. What we fancy to be such things are merely those events that are so complex that we have not as yet discovered their regular antecedents and conditions. The making of the world and its inhabitants, the origin of species, the course of history, the life and

thoughts of each individual—all are but necessary, gradual, unguided evolutions of the unconscious primal energies of the universe, according to the same inflexible natural order that is now in operation. Crystals, cells, nerves, mammals and men have all developed from primal chemical materials and combinations and have differentiated themselves spontaneously by the necessary laws of Nature. There are no interventions or corrections in that august system to remedy any disorders or keep them from bearing severely on particular individuals. The great order of the cosmos has no tenderness for childhood, no pity for virtue, no regard for the most pathetic prayers. It never swerves from the path that force and circumstance prescribe.

Such are the two opposite answers. Which of these methods shall we accept as the real course of action in the universe? Shall we believe that the latter method of cosmic government prevails, viz., that of invariable natural law and the rule of blind, unconscious force?

Against this, as a full and sufficient explanation, the heart of man protests, as a theory that gives us only a gigantic glacier of unfeeling force which with icy rigors would freeze the very knees that kneel before it.

Of those who hold to this strict scientific

interpretation of the processes of the cosmos, there are two classes. One class would suppose, in company with such eminent men of science as the late Charles Darwin and Clark Maxwell, that the first constitution of the atoms and their properties, the first living cells and the chief primal forms of life were due to special acts of creation on the part of the Supreme; but that after the universe was once organized and started on its way it has been left to go on evolving itself without the least interruption by further supernatural intervention.

Now, this theory of a Creator who at first spends infinite care and skill in equipping and launching the grand cosmic steamship with its marvelous machinery, but who thereafter takes no more thought about it, seems somewhat absurd. If the Divine Maker of all was so intensely active at the day-dawn of time, why, throughout all succeeding ages, has he remained in inactive torpor? Did the work of creation so exhaust him as to overwhelm him with lethargy ever since? The old-time writer of the Genesis legend seemed to have some such notion, but it certainly does not comport with our modern ideas of the Omnipotent Divine Life.

Or shall we adopt the more radical theory of the origin of the universe, which denies out-

right any knowledge or well-founded belief in a Personal Creator and recognizes the Divine Power, if at all, as only a mere material main-spring of the universe, a primal energy or substance to which we are not entitled to attribute either intelligence or good-will, but which goes onward unfolding and progressing without plan or purpose according to the irresistible laws of evolution?

Such a view leads the mind that analyzes it to discern still further inconsistencies. The ideas of time, space and substance are intuitive ideas, of which the reason cannot divest itself. Energy, motion, matter and mind are grand facts which we cannot analyze into any simpler elements. So the naturalistic theorist supposes as Prof. Haeckel does, that each of them is infinite. Accordingly, the insistent expounders of Naturalism assure us that the universe is eternal in time, infinite in space, illimitable in variety, eternally persistent and unchangeable in substance and energy, and that it always has had both material and mental sides, which interact and develop by inflexible laws, whose countless permutations constitute all the myriad phenomena of the cosmos.

It is a speculation of colossal grandeur; but it is as much an enterprise of faith and imagination as any dogma of Theist or Pantheist. The domain of science is confined to

the finite. All these "*a priori*" intuitions as to the infinite outreach in space and time of certain primal realities are plainly beyond the experimental boundary of natural knowledge. Especially faulty is the conception that underlies this apotheosis of Nature's order. Readers of popular science can hardly fail to notice how these expositors of modern discoveries exalt the laws of evolution, gravity, conservation of energy and so on, as real things, active in themselves. They are spoken of as creative and governing forces, as the ultimate agencies of the world—indeed, as the original realities of the universe. "The unity of the universe," says one of the boldest and most brilliant expositors of this view, M. Taine, "did not come from any exterior thing foreign to the world, nor from any mysterious thing concealed in the world. It came from a general fact similar to others, a generative law from whence others are deduced, in the same way as from the law of gravitation all the phenomena of gravity are deduced." Intoxicated with this new discovery of thought M. Taine mounts his metaphysical Pegasus and sings the new epic of creation. "At the supreme summit of things, at the inaccessible height of the luminiferous ether, the eternal axiom pronounces itself; and the prolonged echo of that creative formula composed, by its inextinguishable undulations, the

immensity of the universe. . . . All life is one of its expressions, all being one of its forms, and the succession of things descends from it according to indestructible necessities, bound by the divine rings of the golden chain."

Surely, it is a marvelous axiom, an extraordinary formula that can effect all this, and if difficulties and inconceivabilities of thought, such as (according to the opponents of theism) require us to disbelieve in a Creator, are really proper grounds for declining to accept any idea at all, certainly they may well justify us in refusing to embrace this.

"Words which should be the servants of thought are too often its masters." By ambiguity of language and subsequent confusion of thought, laws are represented as working things, capable of self-activity. But laws of themselves have neither life nor movement, power nor sanction. Laws of themselves do not repress treason, punish perjury, nor protect property. Will a statute put a burglar in prison without the aid of constable, attorney, or judge? Will merely engraving a sheepskin prevent a community from drinking what it desires to drink? Were this indeed true, how easy would the work of government become!

A law in itself is but a bit of parchment covered with certain signs. Its power comes

simply from the fact that, in the first place, it is expressive of certain minds and wills,—the law-givers' who enact it—and, secondly, that it is recognized by certain other minds and wills—those who know themselves rightly subject to these law-givers. So what are called by a natural metaphor "the laws of Nature," have no energy in themselves. Laws do not really make a stone fall nor a vapor rise. What we call the law of gravity is but a short, abstract name for the universal fact. It sums up the orderly series of phenomena, the uniform recurrence of certain events. It is but our own expression of a series which we observe, our interpretation of a classification which we make according to an inward ideal. It implies, like civil law, an understanding power by which the law is recognized, and also a motor power of which it is the expression. In this motor power lies the coercive character commonly attributed to law. It is never contained in the law itself (the mere line of facts) but it always belongs to the causative force behind, which the order of effects implies, and of which that order is simply the stated method of action. While we notice only a customary repetition of certain antecedents and consequents, we cannot feel sure that this is more than an accidental coincidence. It is only when we can trace the shadow of some permanent force as

the bond of the succession that we can feel confident that we have found something absolutely constant in its order. "The scientific mind," as Tyndall well said, "can find no response in the mere registration of sequence in Nature. The further question intrudes itself with resistless might, 'Whence comes the sequence? What is it that binds the consequent with its antecedent in Nature?' The truly scientific intellect can never attain rest until it reaches the *forces* by which the observed succession is produced."

Law is not, then, anything in itself, only the method of action of a force. Nor is force to be considered as insensate and impersonal, an activity independent of mind. The intelligent, orderly, progressive motions of force which Nature exhibits, reason must conceive as guided and impelled by an ever-present mind. Accidental combinations and variations will revert to their original condition unless there is intelligence to preserve and guide them.

The theory of naturalism does not then seem reasonable. Shall we accept, then, the first theory,—that of Divine intervention at special times for special objects? This theory also is open to equal objections. It is opposed to the instinctive belief of mankind in the uniformity of Nature. It is opposed to the fact that wherever we can attain a thorough knowledge of any supposed supernatural event we

can trace it back to the action of some natural cause, and find it occurring in strict accordance with natural law. Like the previous theory, this supernatural theory also regards the world as an engine of brute force rolling on alone, while its Author sits quietly aloof in an infinite remoteness. Only, on this theory, God now and then leans down from his repose above to wind up the machinery afresh, to replace a broken pinion, or to fling loose a caught band. God, on this theory, seems to have done his work so imperfectly at first that he must needs be, every once in a while, putting in his hand to shove the machinery along, and keep it from getting out of gear and bolting the straw and throwing away the wheat. This theory suggests a God who could not foresee the results of his own laws, but has to interfere afterwards in their action to meet an unanticipated emergency. This theory gives us a God who becomes sorry for what he has done, changes his mind, is capricious, inequitable, unstable in his methods of action, altering, in accordance with the petitions of selfish and short-sighted mortals, the laws which in his utmost wisdom he had devised. God is exhibited, in this representation of him, as one who now becomes angry and punishes, now is appeased by the sinner's repentance, and remits the deserved penalty. He appears to be a Deity who visits

and succors special ones, leaving others unhelped, who enlightens favored nations, leaving others in darkness, who is now near, now remote, now exorable, now inexorable. On this theory God acts directly, indeed, in those phenomena of Nature that are mysterious and striking, but in the ordinary, general course of events, in the usual order of Nature, he has no hand. Man is, indeed, left free in general, but, when an exigency occurs, his free-will is entirely taken away. If it is God's will that he should live, he cannot shoot himself; he will not perish, though he stay in the midst of a burning house. Man's consciousness that he has at all times the power of taking away life is, by this view of Providence, declared fallacious; the instinct that always bids him preserve his life, and that always moves him to employ natural means as indispensable for so doing, is declared fallacious.

In the oldest tradition of any great physical disaster that has come down to us (I mean that of the great Flood, a tradition that probably had an historical basis in some extensive and destructive inundation in Mesopotamia in olden time) the cause assigned was the universal and irremediable wickedness of the human race, which had made Jehovah repent that he had ever created man. When a pestilence visited Athens in the early history of that city it was

held to be a manifestation of the wrath of Minerva for sacrileges committed at her altar. So in Brooklyn, New York, not many years ago when a theatre burned to the ground and many hundreds of people lost their lives in the fire, several clergymen of that city asserted in their pulpits that the disaster was a testimony of the Divine displeasure against sinful dramatic exhibitions.

Of course, there are cases where there is a measure of truth in this view of natural calamities as Divine retributions; for there are not a few cases where there is a physical connection between the violation of natural law and the special disaster following it. Many physical evils proceed from man's own folly, selfishness or carelessness. Such are the diseases that come from transgressions of the laws of bodily purity, temperance and hygiene, the epidemics that come from wide-spread uncleanness, the famines that come from social shiftlessness and misgovernment and the droughts that arise from clearing the earth too freely of its forests. These may be properly regarded as self-inflicted penalties for the infraction of the sacred laws of Nature. The responsible cause for such calamities is not to be found in the lack of Providential care or in the infliction of Divine wrath, but in the lack of proper human carefulness. In a large proportion of the dis-

asters from which our race suffers the cause is that men, for the purpose of securing some advantage, essay too adventurously to handle the titanic powers of Nature and carelessly neglect the safeguards that should accompany their operations. When it turns out that they have made a terrible mistake, they cast the blame on a "mysterious Providence" instead of upon their own rashness or shortsighted economy. In the terrible loss of life that in recent times has come from disrupted reservoir dams, devastating city conflagrations, vast national epidemics and the wholesale loss of thousands of passengers when huge steamboats come into collision with the floating ice mountains of the Atlantic, the plain lesson is that of a solemn warning against the too general carelessness of our race when confronting or trying to manage the colossal forces with which our civilization calls us to deal. As the modern chauffeur's method is not to see how far away from the danger line he can keep, but how near to it he can run, so the modern engineer's custom is to see on how small a margin of safety he can get along; his thought is not, how strong a dam or how firm a pier will give perfect security, but how weak a one will hold under usual conditions. When the unusual strain occurs and the ruin, against which no safeguard had been prepared, comes about, the popular blame is apt to be cast upon

the indifference of God instead of upon the recklessness of man.

But, while many physical catastrophes are due to human infraction of the laws of nature, nevertheless, to interpret these misfortunes in general as Divine judgments on the particular individuals that suffer them, is to add to them an undeserved bitterness. Those who are chiefly to blame often, in fact, escape altogether the resultant calamity, while those who are little or not at all responsible may have to bear the full effects of the infraction of Nature's order. It is a noticeable characteristic of physical causation that the penalties that result from breaking natural law spread far beyond the field and life of the immediate transgressor.

Moreover, it is a great error to confound those two quite distinct trains of causation—the physical and the spiritual. The natural forces and the moral forces have each in general their respective spheres and associations. Fear and remorse follow moral laws and are not kept out of tyrant hearts by the battlements of citadels or by the bayonets of sentinels. So the material energies that produce earthquakes follow physical laws and make no inquiry into the character or usefulness of their victims, as they proceed to their work of destruction. The tornado destroys saint and sin-

ner with equal impartiality, if the man gets in its way while the tornado is about its business of purifying the atmosphere. The flood wrecks the church as relentlessly as it does the rum shop. The only question it asks is, "How weak are the walls; how low is the ground on which it stands?" It is superstition and not religion that confounds the natural disturbances of the elements with the wrath of God upon the ungodly.

Such a connection of cause and effect, in fact, is as spurious as that which in ancient days supposed the success or defeat of an army to be contingent on a clap of thunder or the occurrence of an eclipse.

It is superstition and not religion that degrades the high dignity and majestic march of Providence, in its wise, comprehensive, and beneficent operations for the physical care of the whole world, into such a petty and capricious conspiracy of the elements to favor or avenge some special case in another sphere of action. It proceeds on the gross idea that external rewards on this earth are the compensations which virtue must have in order to vindicate Providence.

This supernatural theory, then, no more suffices than the other. It involves unworthy conceptions of God. It satisfies neither the heart nor the mind. Both methods of cutting

the tangled skein are alike unsatisfactory. No one ever cuts a knot without finding that he has excinded something that it was essential to retain. It is better patiently and laboriously to untie it, as far as you can, though all its snarls may not be disengaged. This let us now try to do.

Look at the sphinx from behind and it seems a lion. Look at it in front and it seems a woman. It is neither and it is both. That which we have been puzzling over is just such a sphinx. To make out the truth about it, we must take the elements of both opposing theories, put them together and fuse them into a new product.

The key is to be found in larger and profounder views of Nature and of God. Both the deeper science and the deeper theology, in my opinion, require such a combination of the opposing elements of both theories. They each lead, when thoroughly examined, to a point of view where we see that all these seemingly incongruous factors can be united in one harmonious system.

A Divine Will as the causative power of the world's phenomena is the fundamental demand of theology. But when the nature of such a Divine Will is thoroughly considered, it is seen that any high idea of God requires the events of Nature to be orderly, and excludes all arbi-

trariness as much as science itself does. The world, to the understanding theologian, must not only have had an intelligent cause as its origin, but this Intelligence must have been perfect, this Power must have been infinite. By the clear thinker, God is neither to be dehumanized and likened to a blind force, nor on the other hand is he to be likened to an imperfect, short-sighted, partial man. God must, indeed, be held as similar to a human spirit, but not because he is human-like, but because man is faintly God-like; because with all its defects a human spirit is the highest being the analogy of whose nature can throw light upon God's character. But we must not attribute to God the limitations and infirmities that are in man. We must take the highest ideals, the noblest aspirations, the most exquisite skill, the most consummate wisdom and goodness which we can cull from the flower of all nations; we must expand this ideal with the fire of imagination, and purify it in the alembic of thought, and then say, "This but faintly shadows forth God's perfection. He is Omnipotent, Omnipresent, All-Wise, All-Just, All-Loving."

What kind of action is alone consistent with the character of such a Being? It has somehow been thought that will, even the Divine Will, is necessarily changeful and capricious.

Hence, whenever and wherever order has been traced, there it has been considered that God could not be acting. This comes from not recognizing the infiniteness and perfection of the Divine. Will in man is variable, not from the nature of will, but from the nature of man. It is due to the imperfection common to all human powers. Not being able to foresee the end from the beginning, man can form no invariable plan of action, but he must modify his action to circumstances, delaying his decision until the moment of action. Not being able to make his work perfect the first time, he must resort to a method of trial and error. He must learn by mistakes, and by change upon change approximate to a complete achievement. In proportion as he grows in wisdom, he is less and less led to change his method of action. More and more he forms, at the outset, plans large enough and considerate enough of all possible emergencies, so that afterwards they do not need to be altered. Suppose the knowledge perfect and the power infinite. Then each operation would be done the very first time in the very best way, and would never need to be corrected or improved upon subsequently. Suppose, next, the nature of the man to be made immutable; then the immutableness of his action would also follow. Remove, then, even from human will, those finite

conditions, and it becomes incompatible, not with invariableness of action, but with variable-ness. In the infinite and perfect God how much more so! The plans of such a Creator will never need mending. There will be no unintended, incidental results, no partialities nor favorites. His previsions will care alike for the special and for the common, for the small and for the great.

In the laws of a God of infinite wisdom and power, there is no need, then, no place, even, for interruptions of the established order. The great miracle of Providence, as Isaac Taylor has well said, is that "no miracle is required to accomplish its purposes."

We must put, therefore, at the foundation of a true scheme of Providence, by the demand of theology as well as that of science, the conception that law, absolutely invariable law, reigns throughout the universe. As Prof. Wm. James has forcibly said: "The God whom science recognizes must be a God who does a wholesale, not a retail business." There may be phenomena in regard to which we do not yet know what law or laws they obey. There may be laws which we have not yet discovered, as the laws of magnetism, electricity, steam, were unknown three hundred years ago and radio-activity unsuspected even fifty years ago. These undiscovered laws and forces may over-

bear at times the laws which we do know. The formulas of our laws may be of greater complexity than we think, so that there may be what seem variations from the law, which variations, however, are in strict accordance with it. As examples of such cases may be cited the laws by which our sun's heat is maintained, and the tails of comets are thrown out in opposition to the force of gravitation, as well as the laws by which the luminiferous ether, though tenacious as steel, avoids impeding the motion of bodies moving through it. To these may be added the phenomena of somnambulism, telepathy and the mysteries of those events, so far as they are real, which we call miracles and occult phenomena. These, like many other phenomena, are yet unreduced to law; but if they are to be credited as actual phenomena, the mind must suppose that they have, however, their natural laws and causes, which may some day be discovered. No event that really happens can be an interruption of the original order and plans of the universe.

The forces of Nature then must be recognized as going on without interruption. If the air is overloaded with moisture, the rain descends, though it ruins the poor man's crop and washes away the widow's cottage. If a spark be dropped into a keg of gunpowder, it explodes as promptly whether it shatters a trouble-

some rock or kills a hundred innocent and virtuous men.

There is no slip, no flaw in the interlinked order. As the Commander-in-chief of a huge army, numbering half a million soldiers, in battles like those of Gettysburg or Spottsylvania cannot omit to hold strategic positions or assault breastworks, whose capture is indispensable, because many lives must be lost, so must the grand Cosmic Campaign go onward without favor, irregularity or privileged omissions.

CHAPTER VI

GOOD THE FINAL GOAL

The thinker who looks facts in the face must then grant that the physical laws and energies that reign in the Universe are so relentlessly regular and so systematized to accomplish wholesale effects rather than special and personal ends that whenever there is careless human management terrible mischiefs are apt to result. Who is really responsible for them? Is not the underlying blame for these ruinous catastrophes much less that of the inexperienced man who thoughtlessly drops the spark that fires off the dynamite of Nature, than that of the Author of the world who has so organized its formidable elements and deadly laws that such an explosion is likely to occur?

Certainly, it is true that no solution to this problem of evil is more than superficial that does not justify the Creative Lawgiver and that rigid system of general law that every now and then gives such frightful results.

Let us then examine this system as a whole. We shall see that all the energies and methods of Nature that make up the great Order of the Cosmos were intended for good and necessary

to the welfare and happiness of the earth's living inhabitants. Nothing in Nature was made solely for evil or chiefly so. No nerve was made solely to ache; no organ merely or chiefly that man should suffer pain; no force only to do harm. The evils which sometimes occur from the great laws of Nature are neither purposed nor usual, but are incidental to the regular and beneficent operation of the law as a whole. Take as an instance one of the most terribly destructive of modern catastrophes, the volcanic explosion in the island of Martinique a few years ago. The physical forces that brought the appalling ruin on this occasion were the same serviceable energies that in their usual course of action heat our houses, run our engines, turn our water-wheels and keep every object and creature on the earth's surface from flying off into the interstellar void. For a volcanic eruption is but the effect of certain laws. There are the gravity and the hydraulic forces that bring the upland mud down the river and load it on to the yielding ocean bed until a great fissure in the earth's crust lets in the water to the molten depths of the crater. Combined with these forces there are the laws of heat that turn the seawater into steam when it comes into contact with the internal fires and so expels the ashes and lava through the giant vent-hole

of the volcano to spread disaster far and wide.

To prevent such gigantic disasters would you have the Ruler of Nature forbid heat to expand and water to turn to steam and fire to burn? That would indeed prevent this particular kind of catastrophe. But when these forces of Nature are vetoed, what shall keep us warm in winter and cook our food and work our steam-engines and hold us down to this comfortable earth, instead of spinning off into the outer planetary spaces where the cold is far below zero?

Suppose that by the gift of a miraculous power you were enabled to forbid ashes to fall and lava to run down the mountain side upon the villagers settled below. But if you have no gravity any longer to urge things downward, what will bring the planet back in its punctual orbit to give you the flowers of spring and the fruits of summer?

Similarly in the case of the many other natural processes, such as the tornadoes, floods, cloudbursts and similar things that the critics of Providence so anathematize as hard and cruel. Suppress them and then what shall water the valley and turn the mill-wheel and keep the great ocean of the atmosphere from stagnating? In fact, it is only these troublesome laws of heat and gravity which the grumblers against Providence would eradicate that keep

us all from freezing to death and hold our planet back from flying to pieces under the influence of the centrifugal force of its revolution. "Abolish gravity," as Samuel R. Calthrop once so forcibly said, "and you dissipate the earth. On second thought would it not be better to keep our globe and our old friend, Gravity, even if it does afford us some incidental trouble, now and then?"

"But, tell us," persist these fertile critics who delight in pointing out the improvements that might be made in the great cosmic scheme, "why might not the laws of nature be suspended merely whenever they threaten to do harm, but not at other times? Why have them so cruelly constant?" The plain reason is because this absolute regularity of law is the indispensable means for the training and education of every sentient being. Such a method as has been proposed, of "special suspension of natural law" whenever a man mishandles any dangerous physical energy, would make of him an animated puppet, whose strings are pulled every minute by a Power outside of himself. Under such circumstances man's opportunity to learn wisdom by experience would surely be removed. If the sequences of cause and effect were not thus unvarying, the past would throw no light to guide us on the path before us and to counsel us in our decisions. We should

know neither how to avoid the evil nor how to attain the good, nor even what is good and safe as distinguished from their opposites. Of course, it seems a bitter thing when the careless approach of a bit of cloth to a gas-jet sets a crowded theatre in flames; but it is just this absolute inflexibility of the laws of fire that enables us to use it daily with such general safety. Attractive as the plan seems for interposing a supernatural veto on the destructive action of every natural law whenever any misfortune is imminent or whenever a pious prayer is raised to the courts of heaven by any of the multitudinous suppliants of earth, nevertheless such a plan would bring upon human affairs confusion and anarchy right away. Certainly, it would grievously impair that educational and moral discipline that now is the very best gift of the government of God. How could human beings ever learn knowledge from mixing with life and the world under such a denatured order, exempted from all penalties or warnings that result from their own heedlessness or mistakes? Without a trustworthy universe and a God who keeps his word, man could never have gained that understanding of the scientific order by which he has harnessed nature to his chariot wheels, nor could he have gained that development of character which now constitutes the shining aureole of

his being. As James Martineau has so well said, "A fickle world only admit of a lawless race. No obedience could be required of those who were placed among shifting conditions; to whom foresight is denied and where wisdom is as likely to go astray as folly. As well might you attempt to build upon the restless sea, or steer by shooting stars as shape a mind or train a character where action was a lottery." An all-sufficient reason, then, why the laws of Nature are general, and invariable instead of special and variable is that on the whole, with all its incidental calamities, it is the better system.

Nevertheless, these would-be "improvers of nature," who so abound, will still, I suspect, persist and will ask if it is not at least conceivable that an Omniscient God might have drawn the fangs of nature and yet left sufficient iron in its laws for the education and discipline of humanity.

No doubt it is conceivable that in some way, not understood by man, the whole great order of Nature might have been made so tame and gentle that the earth would have been watered without floods and the atmosphere have been purified without tornadoes and man have been fed without sweating over work and children might have been born without pain. I do not care to deny that this might have been done.

But if we grant it to have been possible, then comes a further question. After all, would a world organized and managed on such a plan have been better adapted than the present system to human happiness and especially to that great end which the evolution of life seems to be aimed at, viz., the development of humanity.

Let us think seriously about this question. Let us picture to ourselves such a world, out of which all the rigidity has been extracted. It is a world in which there is unvarying sunshine and tranquillity—no rough places, no trials, nothing dangerous, nothing violent, no severe work, no temptation, no calamities, no pangs of birth or death. At the first thought such a world seems an Eden. But when we come to realize somewhat what it would be to live on and on in its sluggish, monotonous Lotus-land, we see how soon it would become decidedly tiresome, thoroughly insipid and oppressive. Humanity needs something to hope for and something to fear, or a wretched ennui envelopes him in its enervating fog. The posts in life where a man has least call to labor and least to disturb him are precisely those where he yawns and groans the most. There is a delight that danger gives to the virile human being which security can never bestow. See with what joy the young lad climbs the steep cliff or hangs from the topmost bough of

the tree. Notice with what exultation men penetrate wilds of African jungles or the frozen wastes of an Antarctic continent. How does a furious storm make the pulse beat with electric thrills and lift the mind toward the sublime as no hour of comfortable quiet can do! A world free from all physical dangers would not even make men happy.

Still less would it fulfill the great object of life—the full development of the human spirit. Whoever gets sufficient insight into the alphabet of being to see that the great aim of our human apprenticeship is not to breed a race of Sybarites but to unfold the human soul to strength and light and love, he will comprehend how impossible it is to accomplish this except by contact with danger and struggle with the forces of nature.

Certainly, as we look back over the upward path of animal and human life we can see that this is the way in which the evolution of man to his present state has been attained. In the process of development the easy life often does not lead upward but downward. The received explanation of the chief degenerate forms of life, such as the fungi, the barnacles, the parasites and the slave-owning ants, is that these debased forms have come about from avoidance of the more strenuous life of struggle and self-help; and so, while they have had at first a

very comfortable time, sponging their living from some fellow-member of the animate kingdom, they have eventually paid for it by dropping ignominiously out of the upward procession of life.

I fancy that if any one of us were endowed with omnipotence for a quarter of an hour and allowed to improve the creative scheme according to his own idea, the very first edict that he would issue would be an edict abolishing all pain. But I am afraid such a reformer of Nature's laws would soon find himself in deeper trouble than ever. For, unquestionably, sensations of pain are the vigilant watch-guards that now preserve the body from greater injuries. A very instructive incident in this connection is that related by Prof. Wm. B. Carpenter. A laborer, through a certain nervous malady, lost the sense of feeling in his feet; consequently, one night when in his sleep his feet fell into a bed of quick lime, they were so injured before he felt any pain that they had to be amputated. As far as we can see, it is only by these sensitive sentinels, the nerves, that animal organisms can be kept from dismemberment and the citadel of life be saved from premature destruction. It is the pangs of hunger in living things that quicken them to the accumulation of food, that spur us to exertion, ambition and progress and

all the pleasures and good things linked with them. When we seek the deepest root of the grand tree of civilization we find it in pain. Destitute as man was of the elephant's strength, the armadillo's armor, the claws and horns on which other animals have depended for protection, man seemed the most weak and defenseless creature, physically, of all the animals. But this very weakness developed in him a superior sensitiveness to suffering, and that sensitiveness and those severer dangers and struggles stimulated in him, as in no other denizen of earth, the civilizing faculties, such as skill, enterprise and co-operation.

To disengage the ideal beauty of the human spirit from the material matrix in which it sleeps, it must know the touch of sharp and often rough instruments. The heart must have personal experience in bitter things as well as in sweet. We need to test ourselves in the storm and tempest as well as in the balmy breeze and tuneful grove. Only in this checkered arena of storm and sunshine, woe and joy can humanity be unfolded to that quickness of thought, moral robustness and tenderness and bravery of heart to which it is the very purpose of life to bring us. Even sin has its use as a means of the soul's development, because the struggle with moral evil exercises and tests the human spirit even more

than the grapple with material obstacles. Moral innocence is but a weakling. All robust virtue is gained by successive conflicts and self-conquests. And similarly in sorrow there is a notable education of our spiritual capacities. In the same degree that we come to understand the supreme worth of this self-development we must recognize the beneficent purpose of human grief. As the gray-haired man or woman looks back over the vista of the years and puts side by side its brightest, gayest and saddest seasons, is there any hour on which the Divine blessing seems more visibly to rest than just that when the tears fell fastest?

And just here it is well to notice another thing. One of the familiar scientific facts is that it is the break in the electric currents, made by the carbon pencils, that causes the illuminating spark to flash forth, and it is only where there is resistance to the dynamic stream that its hidden radiance is manifested. Just so, it is the apparent breaks in the course of God's regular beneficence that make this goodness of Divine Providence shine forth most conspicuously. While all the wheels of material prosperity run smoothly, it seems as if the struggle for gold was man's ruling passion and a selfish materialism the creed that commands his worship. But when some great calamity makes its appeal to human aid, how the

angel in the man asserts itself and resumes its sway! How the halls of trade and exchange (supposed to be dedicated only to mammon) become the most prompt and generous in offering relief! Recall the acts of noble exertion and loyalty, the touching examples of self-sacrifice or uncomplaining endurance which in such great exigencies spring forth before revering eyes and light up the dark background with a heavenly glory? See how the pathetic appeals for aid banish for the hour the demons of sectarianism and political partisanship and obliterate ancient walls of jealousy and separation! Is it not just the hard flints of these rigid laws and their resultant calamities that, as they strike the steel of true hearts, elicit these sparks of human emotion and irradiate the faces of great multitudes with the glow of a generous benevolence to which they had long been strangers?

In view of such instinctive outbursts of helpful response in every sore hour of human trial, is it not as logical as it is natural to ask if, when God inspires such tender compassion in the hearts of his children, there is no compassion in his own? Surely not. It is the best of guarantees that he who organized in the human heart such sympathetic emotions is one whose Divine love exceeds all human love, and who, in better ways than we surmise,

will bless and is now blessing every soul that he has brought into life, however great this man's temporary trouble seems to be.

Not so much in nature's inexorableness and occasional destructiveness is the heart of God to be seen, but rather in his customary goodness, in the recuperating life that so soon makes the flowers bloom above the ashes and the lava. Above all, it is seen in that answering flood of pity and in those abundant showers of succor that from all parts of the compass are poured out in such tragic times without other compulsion than the appeal of human need.

Such are some of the methods by which the Divine Providence has so arranged that the invariable laws, in directions where they seem to bear hardly on living creatures, are balanced, and the bad incidental effect is neutralized by automatic adjustments. The observant mind notices a vast multitude of these self-acting compensations.

As man fits his clocks with self-regulating pendulums, where the expansion of one metal corrects the contraction of another, so the Divine Mechanician with infinitely more perfect skill corrects the action of one invariable law by another equally invariable. We have space to give only one or two instances out of thousands. Should the earth's rotation from any

cause be increased, the waves of the Polar Sea would rush off to the equator, and put a brake on the too impetuous planet. Should its motion on its axis be from any cause diminished, the equatorial ocean-bed would be drained off to the poles, and spur up the flanks of the lagging globe with their greater circumferential velocity. Do the billows beat harder on the crustaceans that denizen the sea side of the breakwater? It quickens the secretions that make their shells, and proportionately strengthens their armor to endure it. Does the lowered sun of winter bring greater cold to animal life? It facilitates at the same time the absorption of oxygen in the lungs, makes the warmth there greater and the coverings of fur or wool grow thicker and warmer.

And in the inward world, still more than in the outward, are these wonderful compensations to be noticed. The elastic air fits no more exquisitely into every nook and corner of the earth's surface, giving room for each projecting object, contracting to suit every pressure, expanding to fill every space, leaving nowhere the smallest vacuum, than will man's inward nature fit into all deviations and irregularities of his external circumstances. Come ease or trial, success or failure, health or sickness, life or death, yet that wonderfully adapted human nature, with its spiritual de-

mands side by side with its material wants, its heavenly goal contemporaneous with its earthly aims, can find profit, good, contentment in them all. What blocks the way to one object is made the needed stepping-stone to something else. Does the rain put a veto on a long-looked-for enjoyment? It gives instruction in self-denial. Does a conflagration reduce you to poverty? It is a precious lesson in endurance and humbleness. Does painful disease tie you down to a sick bed? It gives a golden opportunity for spiritual contemplation and growth, which active business or household cares deny. Does Death take away the friend on whom we have leaned? It sends the comforter, the priceless one who will never leave us, the regenerated self, with a will self-reliant, a heart softened and sympathetic, a soul that trusts unwaveringly in God, and that lives in communion with him. As the deadly nightshade can find in the purest soil the elements of its rank poison, and as, contrariwise, the coral can draw from unsunned seas the tints of rosy morn, so our hearts, mightiest of all transmuters, will draw from all kinds of external fortune exactly that which is meet for them; they will change horns of plenty into cups of gall, roughest burdens into the pearly gates that open into the New Jerusalem.

Thus, while the physical order keeps on un-

swerving in its own way and sphere, seemingly without discrimination, God's providence yet makes perfect provision for all, giving to each its due, and only its due. And it is because this is done so perfectly by the inward laws that the outward laws do not have to be turned aside to attend to it.

In a similar way is prayer answered, not merely occasionally, but universally, while physical laws retain all the time their invariability. It takes place not in opposition to fixed laws of cause and effect but in accordance with them. They are laws in its own spiritual sphere, working outside of and supplementary to physical laws. Not a gust may blow gentler, nor a wave be less devouring, for the prayer of the shipwrecked sailor. Yet his prayer is answered. As when the iron is presented to the magnet the attractive force is evoked into action and draws the two fast together, so when a creature soul turns to the great Soul the waiting power of the Holy Spirit is given access to the finite spirit, bringing in its influx, calmness to the mind, and steadiness to the will, brushing conscience clear of blurring mists and giving a trust in God's wisdom and goodness that adopts whatever is received, though it be death itself, as an order from the Divine Commander not to be questioned. Law, moving with a prescient love as

undoubted as its fixity, is the flying shuttle that weaves and maintains the universal web and woof of worlds. Through every changing process Providence wins its widening way and carries all nearer and nearer the blessed goal.

Is this, however, all that there is to the Divine Government? Is this care which provides for the beneficent issues of nature and human life simply a thoughtful contrivance of God, adjusted at the outset of things? Or is it perhaps merely an undesigned effect of the cosmic energies which protect life only because the system could not otherwise keep itself in motion?

On the contrary, for the full satisfaction of the religious instincts, God himself should be recognized as having direct participation in the operations of the world. The spiritual emotions require a present and active God, not an absentee Ruler. Our religious intuitions can no more tolerate the idea that the Power governing the universe should be blind or subconscious than the reason can tolerate that conception of it that makes it capricious and arbitrary. Only a conscious Divine Love and Life can claim the spirit's loyalty and be recognized by the human soul as sufficiently superior to itself to be worthy of worship.

The idea of the world as a titan machine,

started and left to itself, is inconsistent with any elevated idea of God. Man has to construct machines to do his work in order to obtain the help of forces outside of his own body, such as the steam, the water power or the electric energies of nature. Otherwise he has only the energies of his own body to draw upon and he is obliged constantly to be present and personally to attend to the work. But the Omnipotent and Omniscient One does not need any assistance nor are there such additional forces outside of himself for him to draw upon. Omnipresent as He is, He needs no deputies to act for Him in His absence.

Moreover, science, no more than religion, can look upon this ceaselessly changing and growing nature as a wheel-work of lifeless bits and parts. Science is daily coming more and more to the conviction that the cosmos is (to use Humboldt's striking phrase) "a living whole," an organism everywhere throbbing with vital power and sensibility and struggling for its unfolding into breathing, knowing creature forms. Molecule, atom, vortex-ring and electron are found to be known only as centers of force, charges of electric energy or points of pressure in the ether, according to the particular scientific theory which the investigator adopts. All the great laws of heat, chemistry, physics, planetary motion or psy-

chic attraction are but measures or methods of the particular forces that are acting. What are each and all of these in the thought of the candid analysts of modern science, except symbols and special modes of a subtle Protean Power ever shifting from one form to another, but always coming out with substantially the same sum-total of force, actual or potential, with which it started. The dynamic source of this ceaseless transformation play is a Grand Energy, more than physical, ever acting, out of an exhaustless Life, and from this higher fountain sending down the streams of vitality which circulate through all the veins of the vast, out-spreading cosmos. But energy, according to the testimony of our most eminent philosophers and men of science, we know only as connected with conscious effort, the push or the resistance of the will. Thus at length the vast universe, in all its changing states, its varied phenomena and processes, is found to be a manifestation of personal volition and the action of that Guiding Mind without which there can be no pressure, effort or direction. As, then, we have to suppose that this Guiding Mind and energizing Will pervade the cosmos wherever energies act, of whom else can they be the attributes than of the One only Infinite—the Omnipresent God?

“Ever fresh, the broad creation,
A divine improvisation,
From the heart of God proceeds;
A single will, a million deeds.”

When, then (in the light supplied by this profounder view into the secret depths of Nature), we look with its help at those troublesome world-enigmas that we have been trying to solve, how wondrously are they transformed! Matter is no longer a wall, barring us from God. It is the ever-changing, scintillant moving-picture that shows that he is here; and all the brave spectacles and captivating forms of beauteous nature are but dye and lace-work in those glorious draperies by which the Invisible One makes himself visible to our eyes. The laws of the world do not prove God's absence, but rather that his steady will maintains its customary habits. When we trace the seamless webs of evolution from the first filmy mistiness of the gathering nebula up to the “sea and continent girdled globe,” we are but tracing the process by which the Unseen One weaves, thread by thread, “the garment we see him by.” In flashing sun he throws out some sparkle of his glory, in thunder and earthquake some dim semblance of his power. And so, as we follow up the process of gradual development, watching it climb by insensible

gradations, first to the primal life cell and from that through higher and higher vegetal and animal species up to man, we but track the steps by which God further unfolds his divine attributes and moulds, feature after feature, his mask of clay.

Thus, we never need to fear that God forgets his children or is deaf to their cry or answers not their supplications. For however necessarily connected with its natural antecedent any event is and however unchanged by our prayer it may be, it is God's direct doing; and, therefore, the devout heart must serenely accept it as the Divine answer and the good answer to the petition. However naturally and historically the truth may come to us, it should be reverently adopted as God's own speech and revelation. The infinitude of God is not that which removes him from us to a misty remoteness, but that which enables him to be equally present in every part of the world. In the moulding of a tear or the exquisite markings of the minutest shells there is the same perfect finish as in the punctual return of the huge planet to its appointed place in the heavens on its astronomic date. "The hand that moves the world" is not merely directed by a greater power and a more far-sighted wisdom than any prayer of ours can claim, but it is guided by a more thorough

good-will and we may not hesitate to say even by a warmer and truer love than any human criticism exhibits. And one of the clearest signs of that love is its divine voice in the human heart—that divine voice which in every hour of affliction sounds forth in the compassion and self-sacrifice of our fellowmen. Every human tear is a lens through which God's sunshine sparkles for our consolation. Who else but this Divine Father of all has bound heart to heart with such responsive chords of love and pity? What is more incredible than that in the Maker of man there is an ignoble absence of those noblest traits with which he has distinguished his children—those very traits which instinctively we call, in the same breath, at once the divinest and yet the most characteristically human of our endowments?

CHAPTER VII

FATE OR CHOICE

An old friend once told me of an abandoned boat that he had watched in an idle hour at the beach, drifting in an equally idle fashion, to and fro; and he feelingly spoke of the melancholy symbol it furnished in illustration of many a life.

No longer steered by a master's hand to some definite point, such a derelict floats fruitlessly this way and that, at the mercy of the struggling forces of wind and current. Now driven out to sea by the off shore gust; now, as the zephyr dies, swept in towards land by the rising tide; now *in* the channel, now *out* of it, keeping to no constant course; it is a helpless victim of the elements. In course of time, to be sure, it will fetch up somewhere. But that *somewhere* is pretty certain to be no safe haven, but some fatal rock or shoal, where its ribs are crushed to fragments and its mournful skeleton lies wasting away, a grim warning to every mariner.

Of such an abandoned boat are we often reminded, as we look about us in human society and see the lives that, unloosed from their

anchors, without any moral compass-needle and without resolute will for pilot, drift to and fro, as the winds of circumstance carry them.

He who has had any considerable experience of the sea of life forebodes too well the fate of these human derelicts. He knows that however safe and pleasant their condition may seem under a smiling sky, they are powerless; and when the billows rise and pound the poor vessel, as with loose helm and flapping sail it lies in the trough of the sea, and when anon, the storm drives the passive thing upon the cruel rocks, there is no power any longer to save it from destruction. On the waves of life, as on the billows of Atlantic or Pacific, whoever would win the happiness and success of which he dreams, whoever would preserve unwrecked that moral treasure that has been entrusted to him must keep his own hand on the helm of his ship and with fixed purpose steer for the mark of the prize of his high calling.

At the present day, however, such a straightforward course, resolutely adhered to, is one beset with many difficulties. The immense complexity of modern life tends to distract a man's thoughts and dissipate his energies as never before. And both religion and science subtly combine their forces to rob men and women of any earnest conviction of self-governing ability.

The older and sterner forms of Christian theology, by their dogmas of predestination and man's natural inability, have been terribly discouraging to human efforts, at least in the moral field. According to this superstitious doctrine, the saints and the reprobate, the chosen ones elected to Paradise and the non-elect who have been passed over by God and doomed to eternal misery, to the "glory of his eternal justice," have been selected by the Omniscient One ages beforehand. Man is unable to work out his own salvation. All his efforts are frustrated by the fall of human nature in Adam and the consequent moral inability and total depravity of the race. All that any one can do is submissively to wait for the miracle of some descent of the Holy Ghost to redeem those whom God chooses to rescue.

For many long generations these theological dogmas lay like iron fetters on the mind of man, chaining the will and hardening the heart. Though in many quarters they still remain, happily they are now fast dissolving beneath the sunlight of modern thought.

But as these bonds are losing their power, modern science and philosophy are forging new chains, subtler still. From all sides, descend about us the steel wires inscribed: "Circumstances make the man." Every act we are told, is the inevitable outcome of its pre-

ceding condition. Every seeming choice is the compulsion of the stronger motive. Free-will is an illusion, exploded now by science. Crime and vice have their averages calculated by the statistician. There were so many hundred murders, so many thousand cases of arson or embezzlement in each of the last ten years. There will be again the same number on the average in the next ten years. Virtue and vice are therefore subject to fixed laws and physical causes, like the return of winter and summer. They are "merely products of Nature," as Taine says, "just like sugar and vitriol."

The corroding influence of this growing Materialism affects all the departments of life. It dissolves the sense of obligation and snatches the crown from virtue to put it on the heads of fact and force. It degrades literature and art to voluptuous sensuousness. It makes luxury, money, position and worldly success the sine-qua-non of happiness; and to attain this success the pull of some friend or the push of lucky chance is the determining factor. Man is the victim of his environment. Crime is made poetical. Tears are drivelled over poisoners and wife murderers; and those who yield to unlawful passions and violate their marriage vows are made the saints upon whom popular novelists pour forth their laudation

and melodramatic sympathy. That a woman, when piqued, should betray her lover's secret is "just what is to be expected," says an eminent university professor, "of the cleverest of her sex." If, when importuned by a libertine, she surrenders her chastity as to an unavoidable fate, this is held up in the mirror of our realistic fiction as but the natural course of things. That a politician should not sacrifice moral principle as an iridescent dream, whenever a point in the game of politics is to be made by disloyalty to honesty and truth, this is regarded by practical men of the world as Quixotic folly. In short, the assault of temptation is presented as always an irresistible assault and an all-sufficient excuse for any crime or vice. Even our ethical philosophers tell us that ideal conduct is not possible in the midst of men otherwise constituted. Conduct that is alien to the prevailing modes of action is something in which we cannot successfully persist. Such is the melancholy teaching of the popular writers of the day.

Against this reduction of humanity to a helpless victim of circumstances every virile human being ought vigorously to protest. The soul of man is more than its conditions. The human will is the helm of every human course.

Do not, however, misunderstand me. I

do not mean that human volition, even the most resolute, can do anything that it desires. Our will is by no means wholly free. The term "free will" describes clumsily and inexactly the great truth that it aims to express. The truth would be better described as the mastership of the mind in choosing and willing. To a very great extent, of course, we are in the hands of an over-ruling Power from which we cannot escape. For this we ought to thank God. I shudder to think of the consequences to the world, were its destiny entirely committed to our blind human will, unguarded by the great balance wheels of Providence. It is a good thing, I believe, that no Alexander or Napoleon has ever so influenced the course of history as has the annual local rainfall or the most commonplace of human senses and desires. It is by these guiding forces, environing us and sweeping us steadily toward certain Providential goals, that the grand evolution of society is kept on its safe and beneficent course. Much as human effort may make the pendulum of progress vibrate back and forth and from side to side, the constant gravitation of the social world keeps every erratic movement within certain bounds and balances the temporary oscillations toward one extreme by speedy reactions in a contrary direction.

Nevertheless, I maintain that our personal choice is ever more determinative of our destiny than our external surroundings are. Every manly virtue conquers temptation and rises upon it, instead of being necessarily compelled to surrender to it whenever it confronts it.

Human personality is related to material conditions and organic heredities very much as Commodore Parry was situated when upon a great Arctic ice-floe. He could not help being borne southwards at a certain speed by irresistible ocean currents. But by his personal exertions and those of the dogs whom he guided he could travel east or west or north, according to the route that he selected. It is, of course, a mere truism to say that a man inevitably follows the stronger inclination within him and must do so. But to interpret that as meaning that he has nothing to do with determining what that greater inclination shall be, that is a bare-faced begging of the question. His greater inclination is not solely determined by forces without himself but chiefly by his own selection. A multitude of desires and images and thoughts of all kinds, good, bad and indifferent, throng into every active mind, out of the environing sea of sensations and physical conditions and out of the deeps of his inherited nature and subconscious being. The

man does not call them, nor can he prevent their coming, nor even understand them oftentimes, any more than the sea-captain brings to himself or understands the billows and storms that beat on his vessel. The man is no more responsible for the arrival of his thoughts, fancies and longings than the sea-captain for the winds and waves. What he is responsible for is how he trims his sails and turns his rudder so as to take him to shipwreck or a safe harbor. God has given to every normal human being a power of choice such that he need never do what his conscience tells him to be wrong; and that power of moral choice, limited though it be, includes that which most concerns our happiness, our success and above all, our virtue and righteous character.

The truth I believe to be that temptation overcomes men and women, in ninety-nine cases out of a hundred, not because of its irresistible coercion, but because of the weakness of our defence. It is because of the traitor heart within, which, for the enticing bribe of some coveted enjoyment or ambition, willingly opens the gates to the besieging forces. The real difficulty is with our own feeble wills and sensuous nature, siding with the invaders. The radical defect is our poor and sleazy character. That is why the circumstances that hardly excite the smallest tremor in one man's sensi-

bility are, to another, irresistible forces, sweeping him entirely off his feet.

That, indeed, is the difficulty,—our own weakness of character. I grant it; and I grant it, too, knowing perfectly well what our modern determinists will say when I do grant it. They will urge at once, "You have surrendered your own case. For this inner nature, this mental and moral constitution is something over which people have no control. It is a result of heredity and education—a product, therefore, of the environment, only one step removed." No child can choose his parents, nor his early training. His character is therefore, in great measure, fixed before he has the chance to will or choose; and whatever he wills or chooses has been determined upon beforehand by that inherited character in connection with the preponderant mass of sensations and motives that at any given time are incident upon his mind. All that any mind can do is to yield to that motive which its own weight, the pressure of circumstances, and the pull of our susceptibilities, derived from heredity and education, make "the path of least resistance." Such is the argument of the determinists.

Now, of course, our inherited character limits and conditions all our conduct. But, however much narrower the domain of our self-

government may be than we had thought, nevertheless, I maintain, there is a circle within the mind where we have a power of choice. The proof of it is that most direct and incontestable of proofs—the testimony of consciousness. We know by daily experience that we can direct the current of our thoughts; we can allow our fancy to wander freely from subject to subject or we can guide our thoughts steadily along a given line of reasoning or calculation or action. We can turn the light of attention, now upon this, now upon that portion of the mental field. Without this mastery of the mind over the direction of attention and upon the subject of our psychic concentration, no thinker could follow out a syllogism or make a mathematical calculation. Without this power, no judge could weigh evidence and decide a legal problem; no business man could reasonably deliberate upon and conclude a complicated financial proposition. The ability to do these things depends on our power to hold one chosen idea fixedly before us and dismiss all other thoughts for awhile. We can see that the motives in one scale pull down harder than in the other mental scale, and yet we can say—“I will not decide to-day. I will wait till to-morrow.” A man can check the immediate action which is prompted by some natural but wrongful impulse. He can

give the excited impulse time to subside and the better second thought of reason and conscience time to be heard, and at a selected hour he can pull the trigger of the will and discharge the chosen purpose into action through the muscular mechanism.

These are facts of which we are directly conscious. They are also necessary implications of the universal sense of personal duty and our inescapable feeling of responsibility for our moral choices and actions. All our instinctive feelings of remorse for our own wrong acts and all our impulses of indignation at careless, base and cowardly conduct assume and express (consciously or unconsciously) this power of moral choice as a self-evident truth. For if men are only automata, why should we be indignant at the assassin or the despot any more than at a torpedo; or blame the liar for his lie any more than an ill-regulated watch for pointing its hands at the wrong figure on the dial?

If a man has consciously yielded to a temptation or deliberately chosen to commit an act of injustice, because selfish advantage is thereby to be gained, he feels altogether differently about his act than he does when, accidentally and without intent, he has injured himself or another. For the latter sort of conduct we do not hold ourselves culpable.

And this clear distinction between the two classes of conduct (the bad things we choose to do and are to blame for, on the one side, and the unintended evils, on the other side, for which we are not to blame nor called to repent) is confirmed by the judgment of our fellows, the verdicts of courts and the customary discriminations of all modern legislation. In fact, it is confirmed by the universal judgment of mankind. Yet if determinism be true, both classes of acts were equally exempt from self-condemnation or regret. The universal human instinct, however, that the self-chosen act is a proper subject for censure and the unintended one is not thus censurable, clearly implies in the human being, who feels his responsibility, a power of choice. Until men shall feel that an attack of heart disease or a steamboat accident is as blameworthy a thing for its victim as the commission of a theft is for its perpetrator, human reason must grant to normal men some power of moral choice and refuse to accept all human acts, without distinction, as equally inevitable results of circumstance. This dominance of mental and moral choice over our natural dispositions or external circumstances is a fact admitted by leading psychologists and by cautious scientific writers. Authorities of the first order in both domains, such as Professors

Cope and William James, Rudolf Eucken and Sir Oliver Lodge, acknowledge this power of self-direction and option amongst the inclinations urging themselves upon the self. By fixing our attention on that class of remembered things that call up a particular motive, that motive may be made to prevail. But if we divert our attention and fix it upon an opposite set of considerations, the former inclination may be overshadowed and subdued. Even one who was so inclined to the automaton theory of human nature as Prof. Huxley was obliged, nevertheless, to admit, that "our volition counts for something as a condition in the course of events." "This is a belief," he says, "which we can verify experimentally just as often as we wish to try; and it therefore stands on the strongest foundation on which any belief can rest." If there are those who will accept neither logical demonstration nor moral inferences nor the testimony of human consciousness, but demand visible observation of the mind's control over matter before they will believe it, there is an interesting scientific experiment by Prof. Mosso that well illustrates how thought can move matter. In a large and very delicate balance, a man is stretched out in an horizontal position in exact equilibrium. Now let him give loose rein to the lower fancies or passions or empty his mind

of thought as entirely as he can, and the blood, passing downward, lowers perceptibly the end of the scale where the lower part of the body is. But now, on the contrary, let the man's mind be concentrated intensely on some logical argument or profound calculation, and the end of the balance where the brain lies is now depressed, as the blood is summoned by the mind to that opposite end of the scale. The ocular demonstration of the soul's control of its organism is a striking one. But in daily life, the principle is almost momentarily in action. The simple explanation of that fact which the determinist so persistently emphasizes, viz., that the act of volition follows the preponderant motive is this, that this motive, in any case of moral indecision, only becomes preponderant when the self has put its casting vote into the mental balance.

I am well aware that it has been objected that a violation of the law of the conservation of energy is involved in thus supposing the psychic self to lift a given desire or thought into the field of attention where it becomes a source of nervous and muscular action. But in point of fact, nothing is thereby either added to or taken from the sum total of physical energy, and however mysterious the process is, it does not violate any physical law. A mechanical analogy is

furnished by the law that when a directing energy acts at right angles to a moving body, it may deflect its course without altering the stock of energy in the body acted upon. So the self may alter the direction of the nervous and muscular currents without conflicting at all with the law of the conservation of energy or other mechanical principle.

As to this materialistic objection, so often urged, that a selective superintendence by the mind over the impulses pressing upon it, conflicts with the laws of cause and effect ruling everywhere in the physical world, there is a direct and sufficient answer. It does not conflict with them for this plain reason: namely, that the selective control does not occur within the material chain of antecedents and consequents. It is an option exercised and a direction given wholly within the psychic world, the realm of consciousness. It does not occur under material laws nor under physical coercion, but under mental laws and through moral forces. The laws of matter and of mind are radically diverse. Even if we look at the matter from the standpoint of Monism and only permit speech of the objective and material aspects of the brain in distinction from the subjective aspects of the psychic activity, these two sets of laws, the objective and the subjective, are radically different. In the material or ob-

jective realm changes occur along the line of least resistance, according to laws of quantitative continuity and connection. In the mental realm, on the contrary, we have laws of selection according to association of ideas, moral or logical worth and pleasure and pain. We have conformity to ideals, adherence to purpose, intelligent choice and rational harmony. Material energies add themselves into a sum of the constituents, or, if opposite in direction, neutralize each other in mean resultants. In the mental world, on the contrary, sensations and thoughts, once felt as distinct, remain as distinct and when recalled do not reappear as a sum or as an average, but reappear as distinct feelings or ideas. Contrasted sensations do not fuse into a neutral sensation, but emphasize each other. All our mental life—memory, judgment, comparison, deduction and induction—all depend on this retention in the mind of those contrasts and variations which enable clear perception and reasoning to be carried on. In all the higher activities of the mind the laws that govern physical energies are reversed. Through this radical difference between the psychic laws of consciousness and the objective laws of matter and physical energy it is evident how perfectly possible it is for the self to give a preference to one idea over another, keeping it first in the

field of attention and then, by an act of volition, releasing the nervous discharge in muscular action so as to act on the outer world and initiate changes there, independent and undetermined by circumstances and in no way inconsistent with physical law and the scientific conservation of energy. Nevertheless, through the mysterious connection of the mind with the body, this change, originated by the conscious self, in the act of willing, moves outward from the field of consciousness with mighty effect into the social and material world.

Among living savants the one of profoundest grasp of the philosophical bearings of modern science is the distinguished English Professor of Physics, Sir Oliver Lodge. In his book on "Life and Matter" he has emphatically endorsed this view of the mastery of the choosing self over circumstances. "Guidance and control," he well points out, "are not forms of energy, and their superposition on the material and dynamic currents need perturb neither physical nor mechanical laws, and yet it may profoundly affect the consequences." While mental associations and influences stand outside the material chain of causation and have quite different laws, yet through that mystic intimacy with the cerebral organism (which some explain as a constant parallelism and

others as a double aspect), the physical is made amenable to spiritual control and the daily miracle occurs, by which, as Browning says, "Nor soul helps flesh now more than flesh helps soul." This dominance of the self over its inclinations and acts is a scientific as well as a psychic and moral fact.

These spiritual forces are, indeed, not things that are tangible or visible to eye of flesh. Nevertheless, they are facts, demonstrated by experiences similar to those that authenticate many of the energies affirmed by science. Though a man cannot grasp or handle them, let him violate their sacred authority and how they take hold of him! In the remorse of the transgressor, and in the melancholy and dissatisfaction of the cynic heart, what exhibition do we see of the forces that are denied! From Dr. Thomas Hill I once received a striking electrical illustration of this moral power. "If you have watched a dynamo as it is getting to work, you have doubtless observed how easily the core of balanced magnets revolves, before the current begins to flow. A child could set the core turning. But when the light begins to flash out at the breaks in the circuit, then a powerful steam engine finds that it has all it can do to keep the magnets revolving. The energy is invisible. But its existence is shown

by the tremendous resistance required to overcome it."

So the anguish and piercing stings of the heart which sets up its unscrupulous selfishness against the sacred laws of righteousness,—this suicidal wrestle of men with conscience and this fatal scorching of self-respect and honorable joy in the secret fires of moral retribution,—how tragically do these experiences of over-ambitious men (all too common as they are) exhibit the mighty power of unseen realities in the human soul!

Through this sovereign power of the self the reformed drunkard keeps his thirst for liquors in check; through this the martyr holds his hand unmoved in the burning flames; through this the decision of a critical hour makes or mars the career of the genius. By this moral choice we not only can keep at bay the temptations to vicious indulgence, carry into execution our nobler aspirations and maintain our moral character, uncontaminated by the pressure of the world about us, but we can do more than this; we can elevate and ennoble our own characters. We can, by persisting in our self-restraint and our generous aspirations till they become habits, alter even that legacy that heredity has left us! By fixing our attention upon our sense of duty, we can give it, if weak, enhanced power; by steadily repressing

our sensual inclinations, we wither them up, at length, close to the root. By strengthening every virtuous effort and turning our thoughts more and more from the low plane of self-interest to the heavenly visions of disinterested devotion to God and humanity, we can, little by little, make this life of the spirit a second nature, and lift ourselves up into spheres of high thought and purpose, where low and sensual pleasures no longer even attract us. As John Stuart Mill, although he had severely criticised the ordinary presentation of the theory of free-will, nevertheless at length admitted, "we have real power over the formation of our characters." "Our will," the great English philosopher acknowledged, "by influencing some of our circumstances, can modify our future habits and capacities of willing."

Through this self-modification of our customary conduct and companions, and especially by the altered choice of our preferences and resolutions and by the change in the respective kind of stimuli and inclinations that are either repressed or indulged, our whole mental and moral environment is altered. The great world about us may best be likened to an echo cliff, that gives back to us (according as we give to it) music or discord, and songs of joy or groans and murmurings of discontent, magnified into long

reverberating waves that make not only our own weal and woe, but the weal and woe of our neighbors and associates. Happiness begets happiness. If you "would have the best come back to you," then you must "give the world your best."

"Give love—and love to your life will flow;
A strength in your utmost need;
Have faith; and a score of hearts will show
Their faith in your word and deed.
Give pity and sorrow to those that mourn;
You will gather, in flowers again
The scattered seeds from your thought out-borne,
Though the sowing seemed but vain."

The supreme fortune teller is not destiny but character. Every great man who has towered high above his generation has been no pleasant drifter with the tide, but a man notable for his resolute will—a man who has laughed to scorn that word that cows the multitude, "Impossible." "Talk not to me of that word," said Mirabeau (when it was presented as a final bar to something which he was determined upon). "Talk not to me of that blockhead of a word." Before men of such determined spirit mountains crumble to mole-hills.

The key that unlocked the door of success for Wagner was forged of the same metal.

It was in the darkest of dark days in Paris, when he was bankrupt, starving, and every leading director to whom he appealed for a chance to be heard was icy marble to his prayers, that Wagner wrote in his journal "Sic itur ad astra," and by his indomitable will won his way to the operatic throne of the musical world.

In the life of Frederick Douglass a similar triumph of determined will over opposing circumstances was splendidly exhibited. Here was a man born in bondage, not owning as a youth his own body, nor allowed to learn the alphabet, except by stealth; pledged before his birth for his master's debts. But though denied all chance of education, he somehow learned to read and write, and, secreted on shipboard at imminent risk of death, he escaped to a free state, and before many years became a famous lecturer and editor and the peer of any man in the country.

Or to take a more recent instance, recall the account that Thomas A. Edison has given of the origin and conditions of his remarkable scientific inventions. When "the modern wizard" was asked if their source was in brilliant intuitions that came to him indirectly or through accident, he stated that almost never had he made a discovery in that way. "When I have finally decided that a result is worth get-

ting, I go ahead on it and make trial after trial until it comes. Anything I have begun is always on my mind and I am not easy while away from it until it is finished."

Prof. Ehrlich, perhaps the greatest medical discoverer of modern times, has accomplished his remarkable achievements in a similar way. One of his famous chemical compounds that works unprecedented cures is called 606. But the number of experiments that preceded its discovery is said to have been nearer 6,000. As it was once so expressively said by Charles Darwin, who labored forty years on his noted book, "The Origin of Species," forcing himself unremittingly through days of constant suffering to do work from which men of the strongest constitutions would have shrunk: "*It's dogged that does it.*"

Every reader who looks into the career of the great men of the United States finds that the university where almost every one of these noted men was educated was the little red district school, and the home in which he was born was a log cabin or some equally humble shelter.

The believer in luck lazily waits for something fortunate to turn up. The believer in the power of will gets up at dawn, turns up the hidden ore with industrious hand and forges it into precious metal.

For months Delsarte had daily besought the

theatrical managers for just one opportunity to appear before a public audience, but only to be angrily rebuffed. At length, one stormy night, the manager thought he would end his importunities by granting him the chance for which he had begged. Pointing to the drop curtain, he told Delsarte that in a minute it would go up and he might try what he could do. On its rising, a beggar in ragged garb advanced to the footlights with the air of a prince and began his rôle. His sweet and clarion voice, his graceful bearing, his expressive and dramatic gestures, his moving play of features and wonderfully inspiring personality soon elicited an extraordinary admiration and the audience listened spell-bound until, at the magnificent crescendo of the dramatic effort, the appreciative hands instinctively united in enthusiastic applause. When Delsarte left the theatre that night it was with a fine engagement which showed that he had, to use the French phrase, "clearly arrived."

If a nearer instance, amidst the more insidious and less romantic moral dangers of our own land, be desired, we may turn our eyes to the oozy slums of New York City that engulf thousands every year. Yet even here, in such a career as that of Jere McCauley, the founder of that most beneficent institution, the old "Water Street Mission," we can see a truly

magnetic illustration of the power of a regenerated will to overcome the down-drawing power not only of squalid environment but also of wretched heredity and companionship. For Jere McCauley had been the companion of thieves, an inmate of prisons and a man so discouraged at the obstacles in his way to leading a decent life that he had become quite hopeless of his power to reform himself until the sympathy and aid of a true friend nerved him to one more effort. Sustained, however, by this brotherly faith and help, he turned to a life of honesty, and not only gained the white plume of virtue for himself, but established a splendid philanthropic asylum for the fellow-men, beset by similar temptations and adversities. This Water Street Mission House has now become world-famous, and there is not a ship that sails out of New York harbor, it has been said, which does not have on it some man who has felt its influence and been lifted more or less to a cleaner life by the example of this former jail-bird, Jere McCauley, and by the equally devoted work of those men of the people who have been his successors in rousing the latent manhood of the lowest of the low in America's huge maelstrom of temptation.

Circumstances, doubtless, supply the material to the loom of life; and if they give no silk or velvet, only rough wool or cotton, we

can only do our best with such means as we have. But the pattern in which the web is woven, coarse or chaste, tawdry or beautiful, lies with each.

Society's commonest failures are the weathercock folk. The psychic dynamite that clears the pathway of life is concentrated energy. A resolute heart can turn adversity and pain into the scarlet robe that fittingly adorns a princely soul. It can transform the miry environment of temptation, vice and tyranny into the fruitful fertilizer of virtue's spotless lilies.

As Epictetus demonstrated how virtue wins a brighter grace from a Nero's foul rule, so Marcus Antoninus has shown us (what perhaps was even a more difficult achievement) that even in a Roman palace "life may be well led." So far from a Christian life being an impossibility among the degraded and the ferocious, as Herbert Spencer once asserted, it has been precisely among these, even amidst the most savage and cannibal, that the missionaries of the Gospel, from the time of Ulfilas and Boniface to that of Livingstone, Pateson, and the heroic saints who converted the Fijians from cannibalism to Christianity, have exhibited the most lustrous examples of fidelity to Christian principle.

It is, to be sure, no child's play to achieve these moral victories. The walls of our mod-

ern Jerichoes need something more than the blowing of rams' horns to make them tumble down. To save the souls of fellowmen, or even to save one's own soul in the slimy underworld of a great modern metropolis is not a case of slipped ease. It requires faith in God's world, faith in the dominant soul within the most degraded and faith in the Fatherly Goodwill toward all the children of the human race. "It takes some fighting to win a fray." And to win a spiritual battle every human being must be able to bear blows of adversity. Men and women have got to use their wits. They have got to control their passions; they have got to sacrifice pride and vanity; and pay virtue its price by giving up oftentimes ease, comfort and worldly advantages, if they would come off unscathed. But any man that values honesty and self-respect more than money or the world's favor can be honest and clean in life.

In the pathetic story of the loss of the magnificent steamship *Titanic* on her first voyage across the Atlantic, one of the most dramatic incidents was the noble conduct of the ship's musicians. Instead of deserting their posts to get early seats in the life-boats, the men of the steamer's band loyally stood shoulder to shoulder in their accustomed places, manfully playing the devotional or encouraging hymns

that might cheer fearful minds or console the sad hearts of the passengers. In firm and unbroken ranks, and with heroic spirit, they continued the music till the fatal end drew near.

In the equally grave perils of the sea of life, when the billows of sin and crime threaten to engulf the lives of men and women, is there not an equal call on every one to make his human existence "one grand, sweet song," to play the chivalric part of a true soldier of God to the very end, to be ready to sacrifice life itself to maintain clean hands and a pure heart? No man determined to keep his fingers from stealing and his tongue from lying need steal or lie. No woman, firmly resolved to keep herself chaste, need be unfaithful to her marriage vow. They are sophists and base defamers of womanhood, who say that such temptations are so natural as to be irresistible.

Of course, the mere weak desire to be chaste, if it does not cost much, such as Thomas Hardy has portrayed in his "Tess of the D'Urbervilles" (that infamous libel on a really "pure woman"), is a poor defence against the pressure of fleshly passion. When a woman's devotion to virtue is conditioned on easy terms of service, exempt from such demands as the sacrifice of her pride, or her jewels, or the endurance of a little poverty, such virtue, of course, is not equal to resisting the temptations of the world. This, however, is no genuine

purity. But when a woman is resolutely determined to be pure, cost what it may, there is always a way of escape from degradation. Even a Pompey, unsupported by any Christian faith, could, for honor's sake alone, say, as he sailed into the teeth of a devouring gale, "It is necessary for me to go,—it is not necessary for me to live." Is her purity of less worth to a Christian woman than his honor was to the pagan General? Or is it the revival of that ignobler Paganism of classic days, that materialistic and epicurean philosophy which, at length, consumed the manhood of the Roman race—is it this that leads so many to-day to consider bodily comfort in this life the only good and the new rule of right, and to regard hunger and passion as justification for every crime, and thus degrades our ideals of moral responsibility far below the level of ancient Stoicism?

For my part, I am not ready yet to surrender either my higher estimate of the worth of virtue, my faith in the human ability to guard that virtue, or the Providential support that is given to every struggling soul. I rather say with loyal John Milton:

"So dear to Heaven is saintly chastity
That when a soul is found sincerely so
A thousand liveried angels lackey her
Driving far off each thing of sin and guilt."

Let us remember, however, that in order to receive such support the soul ought to get into some intimate connection with the heavenly currents. The common human will needs a great deal of electrification.

You have often seen a group of birds lazily resting their bodies on the telegraph wires, while under their horny claws, all unbeknown to them, momentous messages were passing, pregnant with joy or tears, the loss or gain of fortunes, the tidings of life or death.

As I have sat amidst some gossiping throng of travelers, while they sped through the grandest of Alpine scenery with inattentive eyes, or listened in some fashionable church to solemn messages of eternal import and noticed the wandering gaze of the auditors, interested chiefly in the looks of the tardy incomers and the display of surrounding millinery, I have thought of these birds on the telegraph wires. How insensible are average men and women to the most inspiring beauties of Nature, to the noblest functions of humanity and to the most vital concerns of our life!

The secret of human power lies in securing reinforcement to our own vacillating will from the great spiritual forces. When the electrician would secure for his wheels, his arclights or dynamo a good supply of the magic electric energy, he must first make connection with

the mysterious cosmic currents and then keep that connection uninterrupted. So for the human soul to obtain co-operation with the immaterial energies that uplift life and character, men and women must open their hearts to the great streams of religious inspiration and development which Nature, society and the church are able to supply. As the piece of soft iron placed within the electric coil may become itself a magnet, so he who desires for himself an increase of spiritual power should magnetize himself by seeking the places and occasions where this power descends. He should vivify his heart through the elevating services of the church, and the fortifying influences of high-minded companions. He should cultivate that trustful receptivity of mind that gives free inflow to the spiritual influences, and he should accumulate in the storage-battery of his memory the lofty aspirations of the saints and the grand thoughts of the prophets of all the ages.

Let a man, especially, face his conscience unshrinkingly, let him aspire to be somewhat better to-morrow than he is to-day and obey the guidance of the heavenly vision, though it take him far away from any popular road. If there is one conviction above all others that I would like to-day to instill into the minds of our young people, it is this: "Do not yield to

these popular sophisms which make you an 'automaton' played upon by the fingers of chance." "All that most ennobles life," it has wisely been said, "is all your own." "All that would debase you, can hold you only by your own permission." He who abandons his God-given prerogative as helmsman and pilot of his ship of life, to let the currents of circumstance drive him as they chance, drifts inevitably toward the fatal breakers. He, on the other hand, who keeps his own hand on the tiller of his ship of life not only advances daily nearer his desired haven, but he makes the very head-winds and cross-currents further his purposes. Every year finds the electric searchlight of conscience clearer and the helm of resolution more easily guides his course. Every year the beams of moral principle are stauncher and the armor-plate of righteousness is more impregnable.

Every victory of the will adds to the dominant forces and habits of regnant character. The volitional cords are no entangling bonds, uncoiled by sinister Fates; they are living muscles, whose controlling and saving power grows stronger by daily exercise. It may be that to him who essays this life voyage across the turbulent waves of the modern world, the rays of the inner light seem at first as dim and shimmering as that of the aurora that pulses trem-

ulously in the winter sky. The eye of flesh often calls these rays mere illusions. But the moral vision that can turn away from the glare of passion and befogging custom to look upward in the sobering hours of grief, meditation or tragic temptation, finds in them the signals and attendants of eternal magnetic currents that stream to us from the Divine Sun of Righteousness.

As the wise Greek solved the old logical syllogism which proved that motion is impossible by just "getting up and walking," so he, who is wise, will emancipate himself from the modern puzzles of thought and pressures of environment that would paralyze our will, by just exerting his voluntary option, promptly and vigorously. Whenever any one, however weak he may feel himself to be, has any sincere longing to have his nobler aspirations and better thoughts reign over his life, let him believe that, as they are the best and the noblest, they must possess divine truth and reality, and therefore they must have God's power and all nature's true instincts and forces behind them. And so, as a loyal child of God and patriotic member in the great brotherhood of humanity, let him act up to these higher convictions.

The majesty of Eternal Righteousness is above and behind each faithful soldier who answers to the trumpet call of duty. As soon as

a man steps above those insulating stools of selfishness where his curious nerves only receive useless and intermittent shocks or as soon as he makes some effective connection with the grand dynamic currents of the universe, then the Divine electricities, by which mortal flesh lives and moves, flow into and through him and carry him onward and upward with an energy and inspiration vastly more than mortal.

CHAPTER VIII.

OUR SELF-MADE WORLD

I once heard James Freeman Clarke tell of the startling contrasts he found on a Mississippi steamer on which he was traveling.

At one end of the saloon were some professional gamblers and their pals, betting on their cards and filling their conversation with oaths. At the other end were some pious Methodist men and women, singing their popular church hymns. As he walked up and down the saloon he would come now to the singers and catch a few words of their songs of praise and trust; and then, at the other end of the room, he would hear the cursing and coarse jokes and laughter of the gamblers; and it seemed to him as though he were walking to and fro between heaven and hell.

How often, indeed, are heaven and hell thus close together. Not only under the same roof but in the same family and in the same circle of circumstances. The place which seems to one to be an Inferno, another turns into a Paradise.

When the crabs and mussels, the nautili, abalone and thousands of other sea-creatures

built their houses of shell, they all drew from one and the same ocean water and from one and the same stock of materials. But how widely different in color and shape the encasing walls that the diverse species built.

So the life material for boys and girls, men and women is very much the same. Each selects that for which he has an affinity. Of course there are diversities of inheritance and accidents of poverty or privilege which at first constrain us. But as life goes on, the power of environment and fate grows less; the power of character grows more; and the coincidence between our surroundings and our spirit, and the mastery of fortitude over fate become more complete. In the long run, each man fashions his own world and incarnates in his life his secret longings and ideas, his respective virtues or infirmities. In the long run each fills his home with the charm and sweetness of his own personality or with the bitterness, weakness and discords of his inner nature. For happiness we do not need the luxurious furnishings, the costly pictures and gorgeous apparel which to many seem its sure and almost indispensable sources. Neither can a life of leisure, free from every duty, and an uninterrupted succession of gayeties and exciting pleasure-bouts, where every day is a festal holiday, ensure it. The excessive ostentation (as soon as its owner

gets accustomed to it) becomes a burden. The more style there is, the more stiffness and dearth of good fellowship. Chronic dissipation or steady pleasure seeking, draining the animal vitality and closing the man's career to earnest pursuits, dries up the sensibility and stings the man with a consciousness of wasted existence, until in the lower and lower whirlpools of sensual sensations, the vacuum yawns again more drearily than ever and the whole existence becomes a bore. Riches can no more purchase happiness than they can purchase for a school-girl "the capacity" which the rich father ordered the academic principal to secure for his daughter at any price.

Are there not hosts of men and women in rude cabins in back alleys or in huts in lonely wildernesses, living from hand to mouth, without any of those pictures, books, entertainments or comforts which make what you and I call civilized and endurable life, yet who are serene and cheerful, and sing the song of the Lord every day as they walk their path of contentment and peace?

And do you not know, dear reader, multitudes of other men and women, cushioned with softest comfort and encircled with every luxury, their walls hung with trophies of art and elegance from every quarter of the globe, a retinue of servants at their beck and every

privilege that rank and place and fortune can endow them with, who yet are fretful and sordid, chronic grumblers, a burden to themselves and to all around? From their very childhood they have been heaping up money. And yet the bigger the pile grows, the poorer they feel, the more close-fisted they become, the less they can spare to help any worthy cause or suffering brother. It was a man of this type, many times a millionaire, that once on a time, when solicited to contribute to some great enterprise that needed to be done, answered: "I cannot possibly afford to give a cent. Just think of it. I have a hundred thousand dollars idle in the bank that is not drawing a cent of interest."

Alas for the soul-starved creature, haunted in his moneyed poverty with the fear that he might yet die in the almshouse. What humblest day laborer is not better off and daily getting more of the true riches of existence?

No magic of thought, of course, can abolish either disease or death. But excessive brooding over the dark things of life certainly deepens their shadows. He who thinks "hope, cheer and health" will at least live in a sunnier and more healthful way while he does live and will, not unlikely, thereby decidedly prolong his existence. Thought ought to become more of a fine art. The sculptors and painters know

that if they keep their pupils' attention fixed on rubbish, they will never carve or paint anything but rubbish. The art teacher, who should fill his studio with all the mis-shapen statues and grotesque and badly drawn designs which he could find and should keep his pupils observing them all day long, would be set down by every one as doomed to failure, if he expected to get any good and harmonious designs from his pupils.

But how many men and women, in the direction of their own attention, are just as unwise. How many in their daily poring over sorry social scandals, in their tiresome recounting of domestic trials or their melancholy dwelling on all the maladies, past, present and prospective, that have come or may come to themselves and their friends, pursue just as harmful a course.

The way to destroy evil is not to keep it under the microscope, trying to see all its horridness and so make it repulsive; but, on the contrary, we should put it outside of consciousness, superseding it by some suggestive picture of the good.

One of the best remedies for many diseases, as well as for the mistakes and stumblings of our youth, is simple forgetfulness. Look forward to the better day, and the old cramps and congestions fade away. Too often we hear the expression in regard to some wrong received:

“I can forgive it, but I cannot forget it.” On the contrary, not until you can forget it do you really forgive it. You only say so; but the brand is on your mind. Only when with the salve of love and pity we cleanse and heal our memory, do we get rid of its moral inflammation.

Similarly, one of the mistakes of our social and political reformers is their pessimism. They fancy they must paint the whole sky black, without one glimmering star of good in sight, before the people can be roused to action. But unless some star of hope does shine, why should the people bestir themselves? Unless the very pessimist has a vision and a prophecy of a possible better, why should he revolt at the seamy side of things? Despair and doubt are never creative. It is only faith that moves the world forward.

The older Romantic writers dwelt so exclusively on the ideal and the dramatic that their roseate sketches seemed far removed from the realities of common life.

The Naturalistic writers of to-day, on the plea of getting the naked truth, strip the poor victims, whom they study, of the very flesh, to present us, in the bare bones, a picture quite as arbitrary and misleading.

The pessimism which saturates a great deal of modern art and letters is a defamation of

the race. It is an invitation to surrender. He who goes to the battle of life with no better cry than: "All our leaders have been mistaken; the old faiths were lies; and man's cause is already doomed," such a man will never win a victory. Few things spread more contagiously than cowardice. But when the brave are in command, it is easy to charge the flaming line; it is easy even to die. More than royal shows and riches or any social Utopia, men need health, not merely health of body but the finer health of mind, the sanity to know the deeper realities which the surface only hides, and the serene courage which such clear vision gives. Look calmly at these sullen clouds of fate at which we rail and how often we find that they are no storm clouds, after all—only dust, fog and smoke of our own raising.

There are those who, when misfortune or bereavement has come to them, have made it the center of their landscape. They have magnified it and become enshadowed by it, forgetting the living and their needs, forgetting that any others beside themselves have suffered. And there are others who, through the same or equally heavy afflictions, have been exalted and ennobled. In the deep waters of their bereavement they have been cleansed of earthly ambitions and worldly discontents; and the cross which they carry has become an inspiration of

sympathy, help and tenderness to every fellow sufferer to whom they could bring a gleam of comfort or spiritual strengthening. What lot so dark that in it there is no gleam of sunshine? "Put that gleam of sunshine in the center," it has well been said, "as Rembrandt did in his pictures, and the shadows shall become subordinate to it."

Do you ever ask yourself why it is that the things that seem to us hurtful are not kept by Providence beyond our reach? "It must be," as Lowell said with as much wit as wisdom, "that the framework of the universe is fire-proof, or the Almighty would not have left so many Lucifer matches lying around loose." The fires that they light are wholesome cleansers. No possession is so valuable as self-possession.

In every town in which I have ever lived the people who were most discontented and unhappy were people who in worldly goods were well-to-do and, in most cases, had hardly any serious burdens to carry. Consequently they had plenty of time to give themselves up unrestrainedly to worrying over their own precious selves. Such is the case with almost all pessimists. Take their great modern apostle, Schopenhauer, the man who maintained that this world was "the worst possible world," for if it had been any worse, it could not possibly

have held together and kept running. His big philosophic tomes, his private letters and his daily conversation were one continuous growl against life. Human society, he declared, is "an arena of agonized and tormented beings who subsist only by devouring one another—a hell surpassing Dante's in this: that each one must be the Devil and tormentor to some fellow sufferer."

"The greatest of misfortunes is birth."
"The only good is death, and the only truth in the Old Testament—the one thing that has redeemed the book—is the account of the Fall of man and the ruin of Paradise."

One naturally infers that the life experiences that reflected themselves in such hatred of existence must have been terribly tragic. On the contrary, Schopenhauer was a man of comfortable fortune, fine social position and a good appetite, who dined well every day at the best hotel in Frankfort and had carefully avoided the usual domestic cares and responsibilities, by forswearing the sex whom he called "the unreasonable half of humanity," and devoting his whole thought and income to promoting his own bachelor comfort and personal enjoyment. He had not a single necessary care nor had he ever received any serious blow from fortune. His unhappiness was due solely to his own selfish indulgences and isolation and his bitter

scorn of his fellows. It was the fault of his imaginary suspicions, icy pride and the self-inflicted wounds of his insatiable vanity.

Contrast with him another of the great figures of history. Let us take one on whom cruel fortune really had poured its worst blows, a man born in the humblest rank of life, sickly in constitution and deformed in person, in early childhood sold into slavery to a tyrannical Roman master, his days passed in the slave quarters where great gangs of wretched creatures were crowded together, liable to the most capricious punishments, subjected to the most degrading influences and cut off from opportunities of knowledge and from all chance of rising in the world. If misery is sure to develop pessimism in its victim, if circumstances make or unmake the man, surely this brutalizing environment should have forced this poor sufferer to a life of the saddest, lowest, most animal and ignoble kind.

But history has quite a different story to tell. History tells us that he was distinguished for his serene, cheerful, exalted, unmovedly patient spirit—in fact, for his uncomplaining and grateful spirit. He was one whose expressions of resignation and faith in God's good Providence have a heartiness and lyric beauty almost unparalleled in literature. This was the man who wrote "the great world is not

made for my individual satisfaction. Must my leg be lame? Slave—for the sake of one miserable little leg do you find fault with the universe? Will you not cheerfully assent to this burden for the sake of Him who gave it? 'Great is God,' we ought to sing, because He hath given us hands, and means of nourishment and unconscious growth and breathing sleep. And since the most of you are blinded to these gifts, ought there not to be some one, on behalf of all, to sing this hymn to God. And what else can I do, who am an old man and lame, than sing such hymns? Had I been a nightingale, I should have sung the hymns of a nightingale. But being a reasonable being, it is my duty to sing the hymns due unto God. This is my task and I accomplish it; nor, so far as may be granted to me, will I ever abandon this post, and I exhort you also to this same song of praise." Think of that! A slave, maimed in body, a beggar in poverty, yet thus "soaring aloft like a skylark in such a melodious outburst of thanksgiving." Think of that, ye Sybarites, fuming on your couches of roses whenever you find one crumpled petal beneath your irritable nerves. "No wonder," it has well been said, "that they wrote for his epitaph that this Epictetus, poor, maimed and a slave, as he was, nevertheless is 'dear to the immortal Gods.'"

How could Epictetus, do you ask, thus ignore all the hardships and miseries of his lot? Because he had early come to see, as he himself said, that "he is a slave whose soul is bound, though his body be free; but he is free whose soul is free, though his body be bound."

It should be recognized, of course, that there are abnormal specimens of humanity (or perhaps we better say "animals in anthropomorphic guise") who seem to possess neither reason nor conscience. With such "the Gods contend in vain," as a German proverb says. But wherever humanity is in its normal state it sees the right. And where a man or woman sees an act to be right and its converse to be wrong, the moral power "to choose that right and to do it," is present with him. This self-determining power changes to each man the whole hue of the world and the whole weight of its temptations, just as when one puts a rose-tinted pane in the place of a blue sheet of glass in looking on a landscape.

More than this, it remoulds character itself. History tells us how strong originally was the sensual element in Socrates and how fiery was the native temperament in Washington. History also tells us how in both of these distinguished men these faults were restrained and at length conquered by persevering self-

control. Even for the incipiently insane, modern physicians urge, as the most important measure for their recovery, that the patient shall believe that he can control himself and shall strive to the utmost to realize that faith. By this voluntary self-restraint many in the early stages of insanity are now recovered to mental health.

Where there is spiritual vitality it needs no fat environment for its growth, but it will draw life and succulence and beauty out of the stoniest field. When a man's will is firmly set on the cleansing and refinement of his soul, even censure and reproofs are things to be thankful for. "I am a happy man," cries Confucius, "for when I have a fault, men observe it; and so I get rid of it." Failure, pain, bereavement, death become to him who seeks Divine light but the emery wheels that polish the lens of his soul to that clearness where the stars of Divine truth and love shine on him full-orbed—a reward worth all that it has cost. When the noble martyr Perpetua was sent to prison for engaging in Christian worship, she cried out: "This dungeon is to me a Paradise." The record of the unjust conviction of Socrates by his fellow citizens for alleged impiety and his consequent sentence to death is one of the blackest pages in the history of Athens. But it gave to the historic roll of immortal sayings

that famous reply of the calm-minded philosopher, "Wherefore, O Judges, be of good cheer about death. Know this of a certainty, that no evil can happen to a good man, either in life or death. He and his are not neglected by the gods. But I see clearly that to die and be released is better for me. Therefore the oracle gave no sign. For which reason I am not angry with my accusers or my condemners. They have done me no harm."

Or to quote a third and equally noble answer by an equally noble spirit, let me recall the serene words of that great philosopher and savant of Rome, Giordano Bruno, when condemned to death by the Inquisition for the crime of thinking for himself. Asked by his Papal Judges at the close of the farcical trial, through which he had passed, if he had any plea to offer why sentence of death should not be pronounced upon him, he boldly answered: "I believe this sentence is more a cause of trembling to you than it is to me."

What can fate with its worst blows avail against such a spirit? Even the threat of hell itself cannot daunt or turn a soul like that. He who robes himself in sincerity and righteousness would pass through its fire and brimstone as Daniel and his companions passed through the fiery furnace. To the Divine despot whom Christian superstition makes the

jailer and torturer of the unorthodox believer and the independent thinker, the soul that knows its own purity can say, "I shall reach my end and keep my peace of mind, despite you and your eternal prison. In your lowest hell I shall find opportunities of noblest life—a chance there for patience, sympathy, noble helpfulness and Christian charity. For even down there in hell I can do two things, which thou, dread God of superstition, aloft in thy icy heaven, canst not do. *I* can pity and *I* can pardon. Thou canst not forgive *me*, but *I* can forgive even *thee*." And it will not require the presence of many such lofty souls in hell (as Father Taylor suggested when Emerson was consigned there by the bigots of his day) "to begin very materially to ameliorate the climate and turn the current of emigration that way."

But let us not so dishonor God as to tolerate the thought that he can be, even for an hour, the enemy of the righteous. For they are his beloved children. He stands always as their supporter and Almighty Ally. And he who holds his hands, who fights under his banner, shall surely conquer, soon or late. The confidence of our American poet * who sang so trustfully of the Eternal Will was not one whit too great.

* Ella Wheeler Wilcox.

"There is no thing we cannot overcome.
 Say not thy evil instinct is inherited,
 Or that some trait in-born, makes thy whole life
 forlorn,
 And calls down punishment that is not merited.
 Back of thy parents and grandparents lies
 The great Eternal Will. That too is thine
 Inheritance,—strong, beautiful, divine;
 Sure lever of success, for one who tries.

Pry up thy fault with this great lever—Will.
 However deeply bedded in propensity,
 However firmly set, I tell thee, *firmer* yet
 Is that vast power that comes from Truth's im-
 mensity.

Thou art a part of that strange world, I say.
 Its forces lie within thee; stronger far
 Than all thy mortal sins and frailties are.
 Believe thyself divine and watch and pray.

There is no noble height thou canst not climb.
 All triumphs may be thine in Time's futurity,
 If,—whatso'er thy fault, thou dost not faint or
 halt

But lean upon the staff of God's security.
 Earth has no claim the soul cannot contest.
 Know thyself part of the Supernal Source,
 And naught can stand before thy spirit's force.
 The soul's divine inheritance is best."

CHAPTER IX

PARTNERS IN WORLD-MAKING

When the making of the world is spoken of the general understanding is that we refer to a Divine work, long ago completed. The Church, in accordance with the traditions of the book of Genesis, has regarded Creation as the tour de force of a few days of intense activity on the part of God, at the close of which the Maker of the earth and heavens rested from his labors and reviewed what he had accomplished and pronounced all to be good. Many religious people have, therefore, considered the idea that man could do anything to improve the world as a supposition showing disrespectful doubt of the perfection of God's creation. When in the last century the proposition to dig the Erie Canal was before the public a devout member of a religious society objected to it on the ground that such an enterprise was a reflection on the Providence of God. Even so acute a thinker as John Stuart Mill once characterized "the *feeling of helping God*" as a feeling inconsistent with the belief in the omnipotence of the Divine Goodness. Where faith in the All-Wise and All-

Powerful has been strong, it has often thus been so sure that God does not need us and that his finished world can only be meddled with by man to its injury, as to paralyze human effort and to promote indolence, indifference to evil and a fatalistic apathy.

In these latter days this unfortunate tendency has been fortified by the popular scientific ideas of the period, especially by the indiscriminating and extreme assertions current as to the invariability of Nature's order.

The fundamental verity which this scientific phrase expresses has been exaggerated into the fallacy that human beings cannot alter the direction of their course or help or hinder the mighty currents of Nature. With the Persian poet, Omar Khayyam, men are viewed as the puppets of destiny who

“Upon this checker-board of nights and days;
Hither and thither moves and checks and slays,
And one by one, back in the closet lays.”

But this view of the irresistible fixity and finality of Destiny and the consequent superfluousness of human activity is neither good religion nor good science. There is not only a Divine Providence, but there is a human providence. Revering God, as we must, as the first Creator, we ourselves have a task laid upon us by the Author of our being as the

second creator and finisher of the Divine handiwork.

It is this sacred partnership of earth's living creatures with their Creator that I wish to set forth in this chapter. Especially do I wish to emphasize the important part that man himself plays in the great drama of evolution. I would like every one to feel that not only does he need God, but God needs him to accomplish in due season his grand designs.

Certainly, all the laws of matter and force, of mind and society are constant. That is to be acknowledged. But equally is it to be acknowledged that they are all conditional. In every case we must sow before we reap; we must seek before we find. The law itself is constant, but the application of it has an infinite diversity of relations and corresponding varieties of consequences. If we are to get good and not evil from Nature's forces, we must obey them; but when we obey them wisely and tactfully we become their masters. It is impossible to alter the law of gravitation that all bodies are drawn down toward the earth in direct proportion to their respective masses and in inverse proportion to the square of the distance. But by enclosing in a silk bag a sufficient quantity of hydrogen gas, this very law becomes the means of lifting the aeronaut into the skies. Confine superheated steam

within a rigid enclosure and it becomes one of the most destructive of forces. No most fervent prayer of saint or priest will prevent it from dealing ruin about it. But add to the boiler a piston and suitable valves, and it becomes man's most useful of servants—hauling, printing, sewing, reaping, doing whatsoever he wills. Though we cannot destroy nor create a single particle of matter nor set aside a single one of the inexorable laws of the Universe, we can thus, by skill and contrivance, so combine them as to make them our slaves; we can compel the opposing winds to waft us to our goal and twist the rectilinear waves of light this way and that with our prisms and mirrors. We can make the dividing seas our channels of communication, the intangible ether our messenger boy, and the very lightnings our draft-horses and household candles.

There is a field, then, left by God himself for man's moulding and creative powers. It is a field in which man is needed, and in which he continually intervenes either for good or for evil.

"In the beginning," wrote the Hebrew bard, "God created the heavens and the earth." The essential thought of the ancient worshipper, as he sang his noble psalm of creation in that grand first chapter of Genesis, was a true and a noble one. In the light which modern science

has thrown upon it, it is not less sublime than in that simpler, child-like form in which the fancy of the early singer depicted it. What ancient hymn more beautiful, more poetical, than this modern scientific story of the cosmic genesis, whose universal and orderly processes have evolved, not alone our own little satellite, but all these other suns and attendant planets that beam so kindly on us from the skies through the silent watches of the night?

How, out of some formless sea of nebulous matter, stretching out beyond the farthest planetary orbits, was shaped each glowing solar orb! Through the long cycles of inorganic transformation, the Creative Spirit, brooding over the deep and shaping the majestic outlines of mountain, continent and sea, worked in a profound and mighty isolation. But as soon as evolution mounted to the stage of life, these animated creatures, however humble, began to take part in the creative work. Darwin and his disciples have shown us what an important influence on the soil, in lightening, enriching and preparing it for higher vegetable forms, even the lowly earthworm has exerted.

Modern botanists have demonstrated that the humble rootlets of plants, shrubs, and weeds, often from twenty to forty feet in length, have been even more effective than

the worms in fertilizing and preparing the earth-mould for prosperous growth of flowers and fruit trees. The huge chalk cliffs of England and the immense limestone beds of our Southern states are built out of the minute shells of extinct multitudes of sea-creatures and are imperishable monuments to the mighty constructive power of these lowly forms of life.

Amongst the earliest contributions to the making of our earth by living creatures was the extraction from the atmosphere of its carbonic acid by the ferns and similar plants of the Carboniferous and earlier epochs and the deposit of great beds of graphite, coal, and other forms of carbon in the ancient strata where they are found. Quite as early perhaps was the manufacture of petroleum and similar deposits by the sea-algæ; and, then, later on, the pea and vetch family began to extract from the atmosphere the nitrogen, which, in so many compounds, is invaluable in vegetable and animal growth.

As low down in the scale of life as the Micro-organisms, there is (as Prof. Binet has shown), "psychic life and choice" as to what is liked or disliked, and there is effort to secure what is wanted and to avoid what is not desired.

The sensitive, active cell-nucleus is the divine lever for moving and uplifting the animate

kingdom. The intricacies and multiplicity of the mechanisms, the delicate adjustments and far-reaching dexterities of the living organisms are amazing. But behind them all is the energizing mentality, more or less conscious and selective. The hunger of the cell builds and shapes its material organs. The craving for continued life repairs the organic machinery or precedes its anticipated dissolution by creating fresh embryos, decking the plant in floral attractions and the young girl in womanly beauty, with prophetic adaptations, such as are only to be ignored by the dullest thought. Were it not for the co-working of the healing cells with the surgeon, loyally rushing like the watchmen on a levee to repair the damage, no physician could successfully put a lancet into the vital organism, nor could a fever victim recover from the assaults of the devouring hordes of bacteria within him. The automatic processes of the body, which relieve the consciousness from constantly watching the action of lower bodily functions, are necessities of all higher life. But the researches of our ablest men of science, such as Prof. Hering, Cope, and the younger Darwin, now resolve these wonderfully adaptive processes, as well as most animal instincts, into racial memories of the species. They are subconscious operations and inheritances in which the century-long

previous experiences of the ant, bee, moth or other family line is stored up. Although all the claims of the Neo-Lamarckian School have not yet been granted, yet the number of eminent men of science, who are giving their adherence to it, is rapidly growing and the leading naturalists now acknowledge that the "use and effort" by animals of their various limbs, organs and functions, and especially the more or less conscious experience of the species are, after all, most significant factors, not to be denied or overlooked, in the upward evolution of life.

From this lowest grade of living creature upward, that struggle for life and for individual pleasure and success, which Darwin so emphasized, exists and is influential in the development of living species. But a thing that is far more potent is that "struggle for the life of others" which Prof. Drummond pointed out, and that mutual aid which Kropotkin has so well expounded. While competition weeds out the unfit in the prolific crop, it is the overflow of healthy life and the complex influences connected with gregarious life and mutual cooperation that are far more potent in evolving new and higher forms of vital species.

Those low kinds of living creatures, where there is only one cell or a few cells and no distinction of male and female, and where strug-

gle in persistent selfishness for each one's separate advantage predominates, continue, after millions of years, on the same low level of existence. The bacteria and the diatoms remain on the same rudimentary stage of life as their Eozoic ancestors. But as soon as the one-celled organisms united themselves together in many-celled organisms it soon came about that higher forms of life appeared on the staircase of evolution. And when the male creature differentiated itself from the female and then combined and co-operated with its mate, a still greater variation and ascent in vital potency was acquired. A bacterium in the twelfth generation has only twelve ancestors, almost identical. But in the twelfth generation of a creature sexually reproduced, there would be over two thousand ancestors, bringing in an immense diversity of hereditary influences to converge within the offspring and to promote organic variation and evolution. As the cells divide into colonies, their various functions differentiate and each part assists and serves the other parts. Through these group-instincts, the higher plants and animals lift themselves up. Not only plants of the same species, but also plants of different species and even symbiotic couples, in which a plant and an animal live together, unite in friendly and mutually beneficent life partner-

ships. Especially noticeable in this connection are those interchanges of good service between the blossoms of the higher plants and their insect visitors, to which has mainly been due the beauty and fragrance of the higher types in the floral kingdom. The primitive flowers were very small and their colors not at all conspicuous. For the conveyance of the fertilizing pollen to the stigma of the ovaries the only means, in the archaic epochs, were the winds and waters, currents evidently uncertain in their operation and attended with immense waste of the precious pollen. When, however, insects and humming birds began to visit the flowers for honey or pollen, their rough-coated heads or bodies would carry off more or less of the precious impregnating dust to the stigmas of the blossoms which next they visited. Thus were produced effective cross fertilizations, improved forms and breeds, priceless nectars and odors and an infinite variety of curious shapes and lovely hues. The brighter the petals became, the oftener the bees or moths visited the blossoms. The more steadily the insect go-betweens transported the pollen, the more that species of flower multiplied.

Similarly, the great family of birds have been most industrious in helping on the evolution of life on our globe. Positively they have

been most serviceable in transporting pollen and diffusing seeds, and negatively they have been indispensable in destroying, or at least holding in check, the millions of worms, larvæ, insect pests, fungi, moulds, bacteria and similar foes that prey upon the fruits, vegetables and trees most useful to men. The birds have been well called "Nature's Militia," constantly at work without charge, to aid the farmer and the nurseryman.

Those members of our race who, to gratify foolish and ephemeral vanities, promote the destruction of these most exquisite of Nature's masterpieces, these best coadjutors with mankind for the health, balance and progress of Nature, display both a short-sighted selfishness and a base ingratitude to their dumb benefactors that is a disgrace to humanity.

At length, in the upward climb of life, the human species appears, and at once man becomes a still more influential factor in the evolutionary progress than either plants or animals are. Henceforth, as has well been said: "God works not only in man but through man, for man and with man. Conversely, man works through God, with God and for God."

In the first place, let us notice man's co-working with God in the physical world. That man would be audacious who would assert that God might not have finished the earth before

ever man was created. But he would be even more audacious and reckless of facts who should assert that he did finish it.

The immense modifications of the earth due to human agency are known to every scholar. The surface of our globe, as primeval man found it,—with its tangled forests, its oozy swamps, undredged streams, sand-bar-blockaded harbors and barren sand-dunes—was a very different earth from what it is to-day. With axe and hoe and shovel man has subdued the wilderness, drained the morasses, opened highways, constructed harbors out of open roadsteads and made the desert to blossom as the rose. He has changed the course of rivers; he has made the parched ground a pool and the thirsty land springs of water. He has said unto the mountain “be thou removed and cast into the sea”; and his faith (when expressed in patent steam dredgers and dynamite explosives) has not been in vain. Manchester, an inland city thirty miles from the ocean, has been turned into a sea port. At Suez the bridge which nature had left between Asia and Africa has been cut in two and the waters of the Mediterranean poured into the Red Sea. At Panama a truly Herculean feat of human industry is about to connect the long separated oceans of the Eastern and Western hemispheres. In Hol-

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land the extensive territories which the Dutch have added to their country, by diking out the sea and draining the shallow lakes and fens, have furnished territorial additions which comprise more than a million of acres and form a tenth part of that brave little kingdom. These are a few among the more notable feats which the human creator has accomplished.

This co-operation of man with God, in building and finishing "The Great World's Farm," has been most notable. But when we turn from the inanimate to the animate realm, when we look up from the soil and scenery of the earth to its denizens and crops, then man's share in the husbandry is still more significant. How many of our fruits or flowers would Preadamite man be able to recognize as old friends, if he should be summoned back to earth to testify? Comparatively few. The pine-apple in its primitive stage was so acrid that its juice bit the skin of lip and tongue. The ancestral citrons, from which our sweet and luscious oranges came, were not at all inviting fruits. The savage forefather of the plum was the sloe of the wildwood; and as for the original apple, as God made it, it was altogether too sour a crabapple to have tempted either Adam or Eve to a second bite. How strange to a modern eye would Italy look with-

out its myrtles, olives and oranges, to say nothing of its maize, tobacco and tomatoes. Yet the first set of these garden favorites was unknown to the early Romans, and the second set was introduced only since the discovery of America. That general diffusion which we see at present of the most useful plants throughout the civilized world is altogether a result of human travel and commerce. Each plant grew originally in some restricted district, from whence it has been carried by man across mountain-chains and oceans to the most retired nooks of the earth. Thus the potato has travelled from South America, the buckwheat from Siberia and the Amoor, the barley from Asia, and the peach-tree from China. From Egypt the lily was brought to beautify the gardens of Europe; and from India, rice has been diffused through all the warm countries of the globe. From Armenia the Romans conveyed the first cultivated cherry-trees to Italy, and it was by the Saracens that the date palm, the orange and lemon-tree, the horse chestnut, the tulip and a host of ornamental plants were introduced into Southern Europe and from thence spread to the American continent. While ships and travellers thus brought, in the lapse of centuries, most of the plants, fruits and flowers of the Orient to the lands at the west, on

the other hand no sooner had Columbus discovered the New World than a counter current set in, and the returning explorers carried back to the old country such now well-acclimated plants and trees as the tobacco, the tomato, maize, prickly pear, haricot beans and many others, formerly unknown in Europe, but which are now amongst the most familiar inhabitants of our gardens. The imports of strange flowers and shrubs from China and Japan in recent years have almost transformed the appearance of our florists' windows and greenhouses. Under man's fostering tillage, grafting and cross-breeding, there have come forth those marvels of modern husbandry at which familiarity alone has made us cease to wonder. In recent years the hundreds of scientific agriculturists who have been working at the Bureaus of Plant Industry, the Agricultural Colleges and Experiment Stations, have added thousands of millions to the value of the farm products of our nation. They have shown how, by irrigation to make arid lands fertile, by chemical treatment of soils to enrich lands which had become impoverished, by proper rotation of crops, vastly to increase the out-put of soils, and by scientific remedies to banish the diseases of plants, trees and domestic animals. The trained explorers who have recently searched the obscure corners

of distant islands and continents have multiplied a hundred fold the number of useful plants and beautiful flowers, now common in field and garden. Especially amazing has been the way in which the expert plant breeders, such as Luther Burbank and his associates and imitators, by magical manipulation of the vital forces, have transformed multitudes of commonplace plants and obnoxious vegetable pests into serviceable and luscious fruits and lovely flowers.

Thus wonderfully in both the realm of matter and of vegetable life has man multiplied and improved the original stock of things with which God started evolution on its way. In some respects, the transmutations that man has made have been almost miraculous.

In the higher realm of human life our race has made almost equally remarkable improvements. God has furnished man with the raw material of intellectual and spiritual development. But, in his wisdom, he left the legacy in man's hands to care for and complete it. God gave man a noble endowment of possibilities and faculties. The Creator set him in the midst of enviroing opportunities of the fairest promise. But it was left for man to polish and shape the crude materials, to apply, utilize and improve that original inheritance. And the history of civilization is the

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history of man's progress in this Divine Co-operation. The earlier stages of man's evolution and the perfecting of his physical organism were stages through which he went unconsciously, under the guidance of imperative instincts. But when he had reached the upright attitude and found himself bereft of the hairy coats and destructive fangs and claws of the beast (compelled as he was to make his way in that fierce, early struggle for life against the stronger and better armed animals around him) he must make up for his other deficiencies by his nimbler wit and his keener brain. His course of development rose to a higher stage—the intellectual and social. It became a conscious one and all the powers of thought and resolution and mutual fidelity must be summoned to carry it through successfully.

When we look around the earth we see an astonishing diversity of character and range of attainment in the various races. What caused the difference between the Bushman and the Egyptian; between the Australian savage and the subtle Hindu? Was it due simply to more favorable soil or climate or other inequality in the distribution of Nature's favors? It does not seem to have been due to these things, but rather to the respective fidelity, social helpfulness and loyalty to truth, in the different peoples. Its source is to be

found in the industry, ambition and courage to break the bonds of routine and mouldy tradition, that distinguished the successful races. Human nature is not that rigid iron bar that traditionalists have represented it to be; but it is a vital growth, ever plastic to the inner moulding power, however hard the outer shell may seem. Even in a matter where so little change is to be expected as that of size and length of life, statisticians have shown that man has made notable increase within historical time. Few of the mediaeval suits of armor are large enough for a representative Englishman to get into them. The average of human life has nearly doubled within two centuries. The knowledge and observance of hygienic laws are rapidly getting the control of deadly diseases; and the discoveries of chemistry will probably, before long, enable us to manufacture food directly from the elements in any quantity desired. Thus all our skillful scientists and physicians are co-working with God to make man more completely in his image than any denizen of Eden was. And if we must recognize these as co-laborers with the Divine, who can overlook the contribution, to the same high end, of the social reformer, the preacher, the teacher, the statesman, the moralist? One might fill libraries with the moving chronicles of the work achieved in each

of these departments. But I have only time to touch upon one or two salient illustrations. Recall e. g., what a mighty spiritual renovation of humanity was wrought by that great uprising of the heart and conscience of Germany which we call the Lutheran Reformation. Or see how the whole moral and religious life of eighteen centuries has been affected by that pregnant decision of a young Hebrew carpenter, that come what might, odium, poverty, persecution, crucifixion—he must proclaim that larger law of God fuller than all that Moses spake, which he discerned in his own soul. He must deliver to his people the eternal truths of love and righteousness that God had given to him and he must establish a kingdom of heaven on earth, wherein Jew and Gentile might sit down together.

Think back over the great providential movements and the famous national crises of history, such as the founding of the Hebrew nation, the defeat of the Persians at Marathon, the Discovery of America, the settlement of New England by the Puritans or the conversion of the Classic World by the Gospel. Take whatever instance you please among these and will not a moment's consideration show that in each of them the Providential step was made in and through the strain of human effort? God and man worked

together and must have worked together. If Alexander had died in his cradle, if Paul had disobeyed the heavenly vision and gone on persecuting the Christians, if Luther had been as timid as Erasmus, how different would have been the course of history! If Washington had been governed by the same disloyal selfishness that ruled Benedict Arnold, if Miles Standish had been a "quitter," if Abraham Lincoln had been such a trimmer as Buchanan or Douglas, the march of American civilization would have been far less advanced and noble than it is to-day.

Let us turn next to the practical lessons of these facts. In the first place, they have an important message of explanation and encouragement to us. God's world is not yet finished. Let us not judge it then, as if to-day it were the complete world, fulfilling God's plan. In John Stuart Mill's "Three Essays on Religion" and in Prof. Huxley's "Evolution and Ethics," there may be read terrible indictments of the cruelties, the pitiless slaughters and torturings to be found in Nature; indictments that, from the standpoint of the old theology, according to which God completed his creation 6,000 years ago, seem difficult to answer. But when we recollect that the cosmic evolution is still progressing and that God in his wisdom has purposely left

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much for man himself to do,—this bitter indictment is seen to fall wide of the mark. It is as irrelevant as would be the condemnation of the magnificent cathedral at Cologne which a traveller, who visited it fifty years ago, might have uttered. If, at that time, he had criticised as “inartistic finalities” the incomplete structure before him, the arrested towers, the half-finished traceries, the lacking transept, the heaps of rubbish lying all about and the great stagings obscuring the walls, how inapplicable at that time would have been his censures, founded, as they were, upon the imperfections then observed. How natural and even necessary were these apparent defects while the work was still going on!

So it is in judging this far grander temple of Nature. We are to look not at its scaffoldings and its chips. We should think of the magnificent design of its Divine Architect, that grand consummation toward which all things are moving, that indubitable sweep of every line and part toward something better and higher, toward an end too good and too noble for us fully to understand as yet.

“His purposes will ripen fast;
Unfolding every hour;
The bud may have a bitter taste
But sweet wilt be the flower.”

In recognizing this share of man in the world's evolution, we thus find light shed upon many of our perplexities.

And in the next place we find hope and encouragement for our endeavors.

As we look back on the course of evolution before it rose to the level of humanity, it seems in great degree *accidental*—the result of certain fortunate *chances* in the struggle of rival species and in the lucky commingling of heredity, environment and variability.

What assurance is there (the scientific speculator is led to ask) that the human race—lucky as it has been hitherto—will be able continuously to go forward? Why may not the evolution of humanity be arrested, as that of the ants and bees has been? Why may it not retrogress to some lower degraded state, as the polyps, sloths and barnacles have? Or, if men are held fast in an invariable frame of laws, of what use is it for them to try and alter it?

If we are the result of our environment, why are we so foolish as to spend strength in the vain effort to better that environment?

Such are the depressing questions and paralyzing influences that a half-comprehension of the philosophy of evolution suggests. But a fuller understanding illuminates the sky with the roseate tints of good cheer. Since

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in man, development has become a conscious process, then, as Edward P. Powell has well said, "the eyes of evolution are in its forehead."

Progress depends no longer on the chance of a fortunate variation, combining with favorable circumstances. The superintending man, by purposed inter-crossings and fostering care, diversifies the pigeon and orchid, almost at will. His own future he has taken into his own hands. Reason has gained in him the mastery over instinct. Will is able to control passion. Intelligence and foresight are becoming the common property of mankind. Morality has been elevated and enlarged. In the best men and women justice is becoming a second nature. Man is no longer a mere creature of the social environment. He is a living, active factor in it; and when it does not suit him, then, through steam-engine, printing-press, platform and ballot-box, he re-constructs the environment.

Whatever character or privilege we have inherited is neither our glory nor our shame. The circumstances that have shaped our lives in the past we cannot alter; and for them we are not responsible. But just as surely as that ancestry and that environment influence us, so may we, by the physical and spiritual legacies which we transmit, by the circumstances that we mould and by the quickening

or corrupting atmosphere which we exhale about us,—so, I say, may we shape the lives of those who are to follow us. We cannot alter our inherited character. But the noblest part of every man's inheritance is the mind to see the two courses, the upward or the downward, which lie before each soul, and the will to choose that one of the two which brings his soul to life and not to moral death.

If our environment has made us, now that we are here on the electric car of life, we sit in the driver's seat, and we make the environment and we shift annually the landscape for our neighbors, for our children and for our children's children. Circumstance may be strong, but *INTER-stance*, that which stands within the control of the vital reaction and the moulding power of the resolute will, is stronger still.

Still another thing is plain. This is that the message of the world's continuing evolution is not simply a message of hope but a counsel of duty. If the world is to become what God intended it to be, we must be faithful workmen at the post where he has stationed us. If we are not, his world moves down to ruin, not up to glory.

What a rich mine of treasure does science show our earth to be! What a vast granary stocked with all the elements of well-being—a natural store so ample that with judicious use

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man may live on it for countless centuries.

But "the sons of civilization" have only too truly been characterized as the prodigals, "the Coal-Oil Johnnies," of their race, that squander their inherited stores in boastful tumult and riotous living.

With hideous wastefulness we devastate our forests and exhaust the soil, till lands, once among the most fertile, have become barren wastes. We drain the earth of oil, gas and coal; we exterminate the buffalo, the sardine, the mackerel. We slaughter for decoration to our headdresses, man's best ally against the insect pests, the birds, and then we wonder why the crops of the farm and the fruits of the garden begin to fail.

Is it not time that we should ask ourselves "what will become of us when we have squandered our capital for good?" Shall we not then be adding another installment of magnificent wrecks to the sad catalogue of history?

We are the heirs of all the ages past. We are trustees for the ages to come. For the sake alike of our ancestry behind us and all their struggles and prayers, and for the posterity still to come, whose future (mean or magnificent) is in our hands, we are under bonds to fulfill faithfully our part to-day.

I know, indeed, that there are plenty of men who sneer at the idea that we owe anything

to our posterity and who regard the conservation policy as to our forests, mines or the animal species so valuable for national prosperity in the coming ages, as a foolish sentimentality. "What has posterity done for me?" is the hard utilitarian query of such people. "Let the coming ages take care of themselves, as we have taken care of ourselves."

This is the short-sighted attitude of the small politician, considering only transitory advantage; it is not the broad and far-sighted view of a statesman. Even in the utilitarian scales, what priceless debts do we owe to the thought of posterity and the self-denials which past ages have made, not simply for the immediate welfare of our generation but for the welfare of the generations ahead of us. When we boast of the achievements of our century, we forget how small a part of its success, comparatively, it could have accomplished had it not stood on the shoulders of the whole past. And those past centuries worked not merely for themselves or ourselves, but for the children and children's children still to come. It is the grand idea of succeeding generations which, when the present workers be gone, shall enter into the enjoyment of the glorious harvest, which has given us such magnificent enterprises, such enriching inventions and beneficent sacrifices, such tireless industry and

grand intellectual triumphs. Our present civilization has been purchased for us at an incalculable price in self-denials and martyrdoms by those to whom, personally (now long ago laid in their graves, as they are), we can never repay it. It is only common decency for us to make such acknowledgment of our obligation as we can by doing some similar generous service for the benefit of the generations yet unborn.

“God needs strong men to help him,” well said Luther. Yes, and he needs the help, too, of the weakest and the obscurest. The grimiest hand that turns a switch or sews a harness; the obscurest mistress of the village school or the mother who, in the rudest log-cabin, trains her little one to honesty and love; each of them by his or her faithfulness or unfaithfulness makes or wrecks precious human lives. Each of them unfolds or suppresses divine possibilities. The indolent optimist sits still with folded hands and says: Why push and sweat for progress? The “spirit of the times” will attend to that. But what else is “the spirit of the times” but the thought and effort of the earnest minds who sacrifice their own comfort for the common weal? Let them stop their work and “the spirit of the times” will have quite another complexion.

One of Robert Browning’s noblest poems

tells the simple life-faith of the old violin-maker, Stradivarius, whose instrumental masterpieces have become world-famous. In reply to one who told him that he was foolish to be so painstaking in the making of his instruments and that another could make violins as good as he, Stradivarius replies:

May be. They are different. But were his best
He could not work for two. My work is mine;
And heresy or not, if my hand slacked
I should rob God, since He is fullest good,
Leaving a blank instead of violins.
I say, not God himself can make man's best
Without best men to help him. He could not
Make Antonio Stradivari's violins
Without Antonio.

And in making a good pen, a good needle or hammer, it is the same: If we are ever tempted to feel proud because we are the terminable bud,—the century flower which crowns all this patient toil and struggle of the ages behind us, let us ask ourselves: "Are we living so as to show ourselves worthy of what we have received?" And how can we be worthy, unless we, in our turn, convert this wealth of inherited nutriment into its destined fruit and by our faithful stewardship provide for the future, as the past has provided for us?

But is it not derogatory to God to suppose

him thus needing man's help? Does the praise really belong to man for all these wonderful achievements of civilization?

Let not man take to himself any exclusive glory therein. His work has ever been that simply of junior partner. Neither soil, nor sun, nor root, nor smallest living cell has man ever made or could have made alone. His capital stock—his material—must be furnished him by the Maker of all; and he can but polish it a trifle, and round off the corners a little, here and there.

“Nature is made better by no mean
But Nature makes that mean: Even that art
Which, you say, adds to Nature, is an art
That Nature makes.”

All our human dissatisfactions with nature and strivings to improve it are gifts of the Divine Creator. Who can doubt but that it would have been a thousand times easier for God to have finished the world in the beginning than to watch man's slow and bungling efforts at completing it? This self-limitation, which nature shows, was for man's sake, not for God's. It is the very imperfection of the world and of our own souls, that enables this human life to fulfill its high end, that of a divine training school for service, patience,

wit and righteousness. The supreme end of evolution, in all its varied forces and processes, is to produce character. As Humboldt has said: "Property, government, society, books, religion—all are but scaffolding to build a man." "Fierce winds make the sturdiest oaks; and rough seas the best sailors." So in the moral world, it is amidst the conflict of elements that one learns firmness of will and steadiness of soul. To disengage the pure gold, the fire must purge out the dross. So to lift man from his animalism and refine his spirit he must pass through the discipline of suffering and trial. Man, as a spiritual being, is incomplete and ever must be incomplete. A lily, an oyster, or coral polyp might be complete and finished. But such finite finish does not make a perfect world. Better than any complete world is the striving of the ever incomplete towards the fleeing ideal, the noble life-purpose of to-day ever creating a nobler to-morrow. By this voluntary co-operation with the Supreme purpose and by conscious obedience to it, that Divine Will becomes progressive within us. It is no small thing to control the forces of Nature. But to control these eternal forces of the spirit and to tune them into harmony with the heavenly choirs, here is a work far grander. We have been privileged to help beautify the earth.

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But a higher task, a nobler privilege has been given to man,—to beautify and develop the human character; to become a co-laborer with the Holy Spirit in the blossoming and ripening of the soul.

CHAPTER X

SEARCH THE DEEP THINGS

If it were possible to embody in a single phase the dominant characteristic of our age, what words would perhaps most aptly sum it up? I fancy they would be "The age of the superficial."

We live in externals, absorbed in questions of dress, display, wealth or etiquette. The gossip of the society columns delights to tell how much this man is worth or spends and what that woman wears. What a thin varnish is our civilization, covering up, under polite cosmetics and fashionable fictions, semi-barbaric crudities of passion and superstition. The successful men in the scientific world are the hasty popularizers of unmastered researches, distinguished chiefly by the confidence with which they turn the cautious conjectures of the experts into the sweeping assertions of fresh scientific dogmatisms.

So in art and literature, what a host of dabblers in china-painting and Kensington embroidery pose as representatives of artistic taste! How the people who assume the rôle of culture, instead of reading the books them-

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selves, read about them in the magazines in order to be able to talk volubly concerning them to those who know still less!

Our realism finds its highest achievement, in painting in the most elaborate style the outside of things and people—the robe, the mannerism, the petty detail; but it prudently avoids the deeper task of portraying the character. Our culture labors to obtain more foreign words into which to translate each idea, not more ideas or facts for each word. Our politics substitute machines for principles, and our generals give us bulletins for victories. “We keeps a poet” was the ingenuous admission of Day and Martin’s Blacking Company forty years ago. “We keep a reporter” would be the truthful explanation of the rise and growth of many a modern celebrity, not only in the dramatic field but equally so in the political and literary fields. The modern press-bureau makes fame as mechanically as a furnace generates hot air. Even in morals and religion there is the same wretched hollowness;—the husks of rite and ceremony, and the mockeries of substitute salvation in stead of personal reform and genuine spiritual life. Tradition and authority usurp the place of moral insight and first hand convictions. The forcing processes of revivalism, in a week or two of sensational services, produce their

crop of religious mushrooms; but not infrequently we search in vain for the substance of Christian manhood, for any of that deeper regeneration that reaches the soul's center and thrills the throbbing pulse to nobler life and more helpful service.

In this tendency to mere superficial results lies one of the great dangers of modern life.

In any domain of existence to find the realities that alone nourish and sustain and abide, we must go down beneath the surface show and costume to the inner core of things.

To achieve strong and enduring success, to elevate our art and give solidity to our science, to escape from the selfishness and pharisaism that so honeycomb our moral and religious life we must look on the deep things. The world's secret lies in the life within all, that moulds every cell, propels every globule of blood and directs the ideal architecture of every embryotic organism as surely as that of every evolving species or full developed civilization.

In the first place, in our business and industrial pursuits, what else is the greatest mischief but the prevalence of shams? And what else is the cure for these shams but deeper work? When a reputable engineer starts to build one of these lofty thirty or forty story

buildings that are now the fashion, what does he do as the first and most necessary thing? What else but excavate downward as much farther than usual as his sky-scraping towers soar upward? If he does not, he knows it will not be long before those lofty walls will be toppling over in ruins.

At the great World's Fair at Chicago, everybody admired the wonderful fountains, the splendid and complicated machines that were exhibiting themselves to the eye, and the magnificent electrical displays on every hand that shone forth so brilliantly when the evening spectacles opened. They were, indeed, superb—a wonderful fairy-land, magically materialized.

But more marvelous, to the thoughtful eye, was that underworld from which all those upper spectacles received their power—the hundred miles of huge water pipes, the one hundred and fifty miles of gas-piping, the thirty miles of telephone cables, the two hundred and fifty miles of wire for the electric lights, and all the complicated subterranean appliances and arrangements by which the comforts and displays above were achieved.

So he who would rear aloft the towers of great commercial or financial successes, he who would acquire a brilliant professional or artistic prestige must secure it by exceptional under-

ground preparations. It is only crude scholarship, as it is only a crude civilization, that has little subterranean work going on. The student must dig and the lawyer delve and the author grind and polish his style through obscure years, with unflagging patience, before the intellectual radiance can shine out that is to captivate the world's admiration.

When Sir Joshua Reynolds was asked how he attained to such excellence in his profession, he replied, "By observing one simple rule,—to make each picture the best." Something of this quality is found in every successful man. David Maydole, it is said, never advertised—never pushed his business. But he made the very best hammer in the market. Every time he made one it was equally excellent, and that gave him all the business and wealth he wanted.

When James Parton said to him, "By this time you ought to be able to make a pretty good hammer," Maydole replied—"No, I cannot make a *pretty* good hammer. I make the best that's made." Whether it is manufacturing, medicine, painting, farming or financiering, the secret of permanent achievement is found in thoroughness.

It is these subtle elements of character which lie so much more than skin-deep that determine not merely the fortunes of individuals but the welfare of societies and the destiny of nations.

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"All the shows of social life," it has been well said, "are manifestations of a secret and impalpable substance. Every house, workshop, church, schoolroom, theater is the representation of an opinion. What the eye sees of them is built of bricks, iron, wood, and mortar; but the forces by which they are upheld are ideas, affections, conceptions of utility, sentiments of worship!"

What a difference it makes even in the physical development and aspect of a country, what sort of ideas or faith you diffuse there! Suppose some magician could exchange bodily the inhabitants of two areas of land, such as Germany or New England with an equivalent territory along the Zambesi in Africa. What changes, what alterations, even in the physical features of the soil, would occur. How would grains and fruit trees succeed to weeds; what artistic and noble structures would take the place of shapeless huts! Orchestral music soon supersedes the tom-toms. Electric lights illuminate forest glooms, and irrigation works fecundate the barren fields or drain and make healthy the malarial swamps. The idle cataracts whirl the spindles of factories. Telephones and wireless currents enable scattered settlers to talk together. The fetish and the witch-resorts give place to the church, and comfort, refinement, orderly freedom and

security supersede lawlessness, slavery and poverty.

When the spirit of civilization breathes across a land, then, as Starr King once said: "The iron can no longer sleep in its hiding-places; the coal (the only black slave whose labor the white man may rightfully impress) must bring its hot temperament to human service; the streams are compelled to pour their strength upon busy wheels that weave fabrics of comfort and luxury; valleys are exalted and mountains bend their necks; steam hurries with monstrous burdens; magnetism shoots thoughts along its slender veins; and mighty tribes that stand for justice, law and equal government overlook a thousand cities."

In any such transformation as modern civilization brings about, the altered physical conditions are not the cause but the effect. The cause is to be found in the personal and psychical differences. It is this battery of spiritual forces that makes the strength of any people. When two great nations meet in the grapple of war, it is not merely, as is often thought, the relative population of the rivals, or the comparative number of guns, forts, and warships that settle which is the superior power, but the respective skill, valor, hardihood and moral and mental soundness of the two that decide the struggle. Only when we

can see and compare the inward forces behind the armor and the muscle, and discern what new power is given to gun and ball when brains and discipline are behind to direct, are we at all in position to forecast the issue.

Our legislators are most unhesitating in voting away millions to equip forts and armies, build huge and still huger Dreadnoughts for a few years' boastful exhibition before they go to the scrap-heap. But only miserly and reluctant appropriations can usually be obtained to conserve forests or guard health, to harness wasteful water-powers into useful electric workers, or for the still more important enterprises of civilization, such as Bureaus of National Health, Pure Food, Race Betterment, and for the higher branches of education and scientific research on which the progress of civilization so directly depends. Yet could the minds and dispositions of our law-makers be so transmuted that they might cease to waste the national income so lavishly upon these destructive programs of popular Jingoism and instead, divert the resources and efforts of the state into beneficent channels of constructive industries and social enterprises (such as are the real agents of the comfort, wealth and culture of happier and higher humanity), what a better future might mankind enjoy!

The current plea against such practical diversion of national expenditures into more profitable channels is that militant activities and martial ambitions are necessary means for maintaining among a people the spirit of manly courage and are also the only security against subjection by rival states or hostile races. The plea is a fallacious one. The real test in modern war is not that supplied by the preponderance of military habits and expertness but by the scales of self-sacrificing patriotism and by the mental and moral forces that give national efficiency and endurance. Napoleon, we are often reminded, declared that "God is on the side of the strongest battalions." But the historic records have many an opposite testimony to give. When Charles Martel in front of Tours, gathering together the scanty ranks of his Frankish soldiers in defense of their Christian homes, routed the Saracenic invaders who would have saddled on European life the curse of Oriental polygamy, the strongest battalions had to yield to the intenser power of patriotic devotion and superior manhood. So when, ten centuries later, our ragged Continentals, untrained farmers and backwoodsmen, faced the trained professional soldiers from Britain and the Hessian Duchies, even a more notable historic example testified that there were other and more Providential factors of victory than

those supplied by the stronger battalions of the military experts. That which gave Napoleon himself his brief hour of triumph was just the patriot devotion of French republicanism, rebelling against the outgrown despotisms of Europe; and when that work was accomplished and Napoleon attempted to transfer that moral indignation to the gratification of his own selfish ambition and found a new dynasty of imperial masters, the same irresistible power hurled him from his throne into the dust.

Again, half a century later, when the third Napoleon, after diverting the generous aspirations for liberty into a tool for his personal aggrandizement, had sapped the morals of the French nation by the poison of his demoralized court and his own low example, the result was that the people who had been claiming to walk at the very head of civilization, suffered the most humiliating of defeats. When the warning notes of "The Watch on the Rhine" rang out their clarion call to the German people, there came forth to battle a nation trained to respect authority and do their duty manfully. The French youth arrayed against them had plenty of physical courage. But they were, for the most part, young fellows devoid of moral stamina or religious principles, unaccustomed to obey any one or respect any one and whose physique, in too many cases, had been sapped

by the most weakening of social vices. In such a conflict the victory of the Germans was fore-ordained. As a remarkable official report, made soon after the close of the Franco-Prussian War by a keen-sighted Frenchman, has affirmed: "Discipline in the army depends on the discipline of society and private families. But how can this discipline exist in the French army when it does not exist in French families? Moreover, look beyond the family circle, at our schools and our colleges. Is anything done to develop among our young people respect for their parents, regard for duty, obedience to authority and the law and, above all, belief in God? Nothing or next to nothing. And yet there are people who pretend that we can accustom these untrained youths, devoid of principles, to good discipline as soon as they are called into the army."

In the light of such testimony from men of their own nation there is no doubt to what the failure of the French when brought into collision with the German soldiers was due. It was a stern but needed lesson to France. And it is a lesson that our own "Young America," with whom liberty—and I might even say license—is too often the popular idol, may well take to heart. Magnetic as is the attraction to the average citizen of expanding our territorial longitude on school atlases, there is a

more profitable goal for national ambition. It is found in the less noisy but far more useful sphere of intensive development.

Physical things can be enlarged by external aggregation. But to enlarge living organisms there must be growth and union within. Every coherent nation is such a social organism. It integrates and enlarges by mutual services and voluntary co-operation into a living whole, in which each member of the social hive has an opportunity for the development of his faculties, and an interest in the product of his own industry. The strong and enduring government is one braced by the voluntary union of those intersecting circles of the common welfare that make them hoops of steel to hold each other up.

The government of alien peoples by rulers in whose choice they have no part is not merely un-republican but a retrogression to the methods of semi-civilized times. That consent of the governed demanded by our Declaration of Independence is an essential basis of healthy social life. But as the American citizen properly feels that he has rights that are not to be invaded by his neighbor, and that he who thinks he has a grievance against him should be able to establish his claim before impartial judges, so each should restrain himself from taking the law into his private hands and de-

claring industrial war on the majority, when through the channels of properly constituted authorities, that majority-rule orders measures and customs that do not suit him. If the reformer, the progressive, the temperance advocate, the suffrage agitator or the representative of labor has a natural right to resort to violence to obtain what the minority group, sympathizing with him, deem their fair share of life's goods and pleasures, then also the gambler, the anarchist, the brewer and the free-lover have similar justification in resorting to bricks and dynamite and revolvers in an industrial and social war upon the classes that are arrayed against them. Law and order can not be varied to accommodate themselves to the caprices and motives of individuals. In civilized society one class-section has no right to seek its welfare by other means than those legal and peaceable methods open to all. Resort to violence is a return to barbarism, however good the motives that prompt it. When political passion or racial prejudice sweeps away in its blind fury the sacred bulwarks of order and justice and the citizens' liberties; or when the greed for easing one's self of the load of debt or winning a political victory would break down those invisible ties of credit that pervade the mercantile world and, in order to gain a temporary advantage,

would tarnish our financial honor and destroy the confidence with which city and country, east and west, lean upon one another, then, every clear-sighted observer sees in such violations of principle the most sinister of omens for our national honor and safety. Many reputable citizens, to be sure, hug the illusion that the lawless aggression or high-handed confiscation that would be abhorred as dishonorable in dealings between individuals are quite legitimate in a nation if the deed will be a profitable one for the people. It is forgotten however, that while individuals may die too soon for "the mills of the gods" to execute their mission of moral retribution, nations are too long lived to escape the consequences of unrighteous conduct.

A well-known New York lecturer, awakening in that imperial mood which the exhilarating atmosphere of our mountains sometimes excites, opened his inmost heart to a companion with this exultant bit of confidence: "I believe that this morning God himself is afraid of me." When this megaloccephalic vertigo seizes a man it is just as well for him to try the sobering effect of reading over several times James Russell Lowell's warning in his Bigelow Papers:

"You've got to get up airlee
If you want to take in God."

The Divine Commandments prescribing fair-dealing, mercy and pity to the highest as to the lowest of the great human family are not to be broken without eventual retribution. But if the invisible dynamism of normal manliness and righteousness be active and undecayed among the common people, then the statesman is little disturbed when the hour of peril comes. He feels sure that the heroes and patriots, needed to defend the national existence, will rally promptly out of every little hamlet to meet the call of the occasion, as they did at the opening of our Civil War in 1861. The latent but potent inspiration, which in olden days moved the sires and grandsires of America to such noble struggles and successful victories, will again nerve the sons, and as the hour for devoted sacrifice comes again, the uplifting memories of our Revolutionary soldiers and the more recent heroes of our Civil War will resume their sovereignty over the American people and with their sublime vision of the earth's grandest constitutional temple of impartial justice and all inclusive religious freedom, will rally the true and the brave to triumphant defense of this Providential asylum of the oppressed and altar of humanity's hope.

Yes—it is these invisible tides of the spirit, those lofty national ideals of the past and fu-

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ture that constitute the best part of America's force and enthusiasm.

It is, in fact, in these spiritual forces that the sources of political power or social health in every body politic are to be found. It is evident, then, how puerile are those popular remedies that would cure the present evils of society by incontinently suppressing the symptoms. Does intemperance or gambling rage? Let the legislature, we are advised, simply pass a prohibitory law and go home to their ease. Are the legislators corrupt or servile or blindly partisan? Vote out, at the next election, every politician who is *in*, and put those now *out* in their places. Does money still rule, do inequality and poverty blight the land,—then, by drastic legislation let us have a new economic system; take from every landlord or rich man his surplus profits and divide up the total national income in nearly equal portions, and happiness shall reign in every home—at least, one will have no *more* to enjoy or *less* to suffer from than any other. Such are the easy panaceas of scores of theorists. Their varied errors all rest on one fundamental mistake—that the real sources of sin or crime or unhappiness are *outward* and *material*, not *inward* and *spiritual*. They all forget that society is but a *union* of *individuals*, and that no *reorganization* that does not re-

mould the *personal* character of those *individuals* can produce any permanent effect on the social aggregate.

As we look about on the fierce struggle of business competition, class feuds, social emulations and political ambitions, it seems almost as if this nobler manhood was looked upon, not so much as the one thing needful, but as the one thing negligible. It is a very easy way of excusing ourselves for all the political abuses of the hour by laying them on the shoulders of two or three "bosses" and business "Captains of Finance" as if they caused it all. But it is about as logical as the reasoning of the Irishman who smashed the thermometer, proudly declaring that "now he had killed the 'baste' that made the weather so hot." What gives the boss his power? What else but the people's indifference and blind partisanship? Are our legislators and post-office officials wasteful, self-seeking, disregardful of duty and public responsibilities? Is it not because the millions behind them are also wasteful, self-seeking and disregardful of their plain obligations? We must turn the scoundrels out from more than the public office—we must turn the scoundrel out of our own coats and hearts. To rejuvenate society we need more than a change of circumstance or a revision of the laws or new boards of officials.

We need new manhood all through the state. We need something more than even a brand-new economic system with "Socialistic politicians" managing the great business syndicates instead of the able capitalists now at their head. We need a greater devotion to knowledge and justice, more vital embodiment of the Golden Rule, not only in business but in all the circles of social activity.

Unreflective orators have warmly applauded the surprising paradox of the professor who has so roundly asserted that sin is the result of misery, misery the result of poverty, and poverty and all its accompanying vice, crime and unhappiness may readily be remedied by an increase in the income of the unprosperous, such as may be ordained by government.

Deeper thinkers in the most diverse classes of society find more profound causes for our industrial troubles. For a solution of the social problem they would find it nearer the truth to reverse absolutely Prof. Patten's dictum and say that vice and crime rarely fail to produce misery and inefficiency; misery and inefficiency produce poverty; and the only remedy for poverty that is more than temporary is better personality and more efficient, clean, intelligent and forceful character.

That veteran philanthropist, Mr. Sidney Webb, whose natural sympathies are all with

the submerged tenth, nevertheless has admitted that it is idle to regard the extremes of chronic poverty as having any connection with the concurrent existence of wealth. The astonishing increase in riches among certain classes in the present generation has not come by subtraction from the wealth of the rest of the community, but it is an addition that has given to the laboring classes of to-day more abundant comforts and an increased standard of living such as formerly was only enjoyed by their social superiors. For the average man to get a larger income there must be more to divide; and for the nation to have more to divide it must have healthier and more efficient workmen, more thrifty users of deserved earnings, more enterprising and skillful managers and more able experts in those scientific researches that so transform society and produce the veritable miracles of modern progress.

As Frederick Harrison has so strongly and wisely urged: "The solution of the social problem is a moral, social and religious question." No mere rearrangements of the material conditions and economic and political machinery are more than temporary makeshifts. The bottom trouble is that of the unlimited indulgence of self-interest, uncontrolled by the sense of social duty. While selfishness is left rampant, the most ideal laws will be twisted by the cun-

ning and powerful to their advantage and to the thrusting down of the dull and feeble. Both capital and labor, millionaires and proletariat must be moralized. The Golden Rule should inspire new considerateness and generous reward in the employer and new faithfulness and effectiveness in the employed. The supremely desirable thing is to put the human interests of the health, comfort and character of our fellows above the gaining of dollars or our thoughtless self-gratifications; it is to be loyal to the genuinely democratic spirit of true Americans that honors a man for himself, not for his property, and that arrays the citizens of the United States, not in jealous and hostile classes, horizontally estranged, but in a union of good-will, in which high and low, black and white, foreign blood and native born, co-operate under the inspiration of a living bond of conscious obligation for the common welfare.

The supreme need, then, for our country is that of a better humanity, better physique, more thorough knowledge and purer morals. The loss to the national wealth every year from preventable diseases is estimated at some three thousand millions of dollars. It is the application of scientific researches by ingenious machines and processes, to harnessing into the service of man the vast powers of the natural forces, steam, water, gas and electricity, that

has multiplied tenfold the riches and power of civilized communities. The additions to human riches made by an Arkwright, a Bessemer and an Edison exceed all the treasures extracted from the mines of Rhodesia or the Klondike. The contributions to human comfort and the saving of life effected by a Lister, an Ehrlich, a Marconi and an Alexander Bell constitute a golden list which in value and glory exceeds all the devastations of the world conquerors such as Alexander, Napoleon or Ghengiz Khan. The prime and direct method for the improvement of civilization, therefore, is that of profounder investigation into Nature's secrets and a more wide and accurate diffusion of the information obtained.

It is well to notice that I did not say more popularizing of knowledge. That is one of the particularly irritating nuisances of the time. As a keen humorist of our day has said, "It is better not to know so many things than to know so many things that ain't so." Every reader of the magazines and books that flood the market is aware what a veritably morbid appetite there is to-day for turgid phrases, pretentious fallacies and the merest smattering of sociology, theology, psychology and all the rest of the Greek-named branches of learning. Instead of trying to see how many second-rate books you can skim and then say

something about them at the next meeting of your club, it is far better to see how well you can master a few of the great authors whose noble books adorn our literature. To save ourselves and our neighbors from the large and varied assortment of misinformation floating about on every hand, the remedy is a diligent effort to know the things themselves, not the mere names of things, whether popular or technical. It is much better, as Robert Lowe once said, to understand the functions of the liver than to know that it is called *jecur* in Latin and something else in Greek.

Of the three great branches of modern knowledge, viz., research to obtain solutions of the great hygienic and economic problems, academic discipline and equipment for our professional classes, and the industrial training of our common people for useful service, it is the second that receives the greatest attention. But it is the first and the last that are pre-eminently the most important for the improvement, comfort and efficiency of the human race.

As a teacher of long experience, Ella Frances Lynch, has forcibly said, "Whether we go into the question of the prevailing marital unhappiness, of divorce, of cruelty to children, of the saloon, of high prices, of the low wages paid to the ordinary person or of the social evil, the root of any one of these questions

can be traced straight back to one point—in-
efficiency—the inefficient girl who does not
know how to run her home or to care for her
baby, the inefficient boy who, knowing no trade,
finds it either hard or impossible to get lucra-
tive work and becomes discouraged.” In-
efficiency is to-day the chief curse of American
life; and it is because the public school is turn-
ing out thousands of inefficient workers. Ac-
cording to the figures of the Commissioner of
Education, out of the nineteen million school
children in the United States over seventeen
million never get beyond the elementary
schools. Yet the schools where there is any
of that industrial training and domestic science
taught that would fit these millions of children
for practical life are, in almost every town,
above the elementary grade and the age of
fourteen or fifteen years when they go out to
earn a living. The result is that over ninety
out of every hundred children receive from our
schools no preparation for practical life.

The discoveries made in the last thirty years
by the great scientific investigators, such as
Koch, Pasteur, Galton, Pearson, Metschnikoff
and their associates in respect to just six of
our prevalent diseases, tuberculosis, pneumonia,
meningitis, typhoid fever, diphtheria and in-
fantile diseases, if generally diffused and if the
observance of the new medical knowledge as to

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such common matters as pure water, milk and abundant fresh air, could be enforced, are so epoch-making that they would add, according to the medical experts, fifteen years to the average length of life.

Wisely did the French people, when asked to name by ballot the one Frenchman who had most benefited France, choose Louis Pasteur. And if the German nation should ever try a similar national referendum, they would, if wise, put the name of Baron Von Stein, the founder of their splendid system of universal and thorough education and civil freedom, above even such names as those of a Bismarck, a Goethe or a Von Moltke.

Among modern steps in progress none is more auspicious and epoch-making for a higher civilization than the fresh interest in eugenics that has just been marked by the assembly of the First International Congress devoted to that profound interest of the human race. As has truly been said by Prof. Samuel G. Smith, "There can be no adequate treatment of social therapeutics without placing a little child in the midst, considering his nature and his possibilities, the quality of his inheritance and the social responsibility for his education and his upbringing. But in the past, few things have been more neglected by our political and economic reconstructors of society."

The equipment, the adequate manning by first-class experts, and the generous endowment and support of the various bureaus of research, whether scientific, medical, civic, economical or statistical, that may give this profounder knowledge in all departments of human activity, is the need of needs for the advance of civilization.

Especially in the province of religious faith and practice has a similar superficiality of thought been most mischievous. From what else springs the greater part of the scepticism and the materialism that to-day beset the cause of faith than from just such shallowness of understanding as to the great subjects upon which they so glibly pass judgment?

For example, what is the source of the agnosticism that in these recent days has mired so many an ambitious mind, except the intellectual confusion that befogs it so that it fails to think through to the luminous end the train of thought that begins with such thoughts as infinity, divine absoluteness and the relativity of substance and phenomena. To give up in the face of these ideals, great and subtle as they are, in despair of any practicable comprehension of the relation of the Infinite Self to our finite selves, is either intellectual sloth or spiritual cowardice. Either we must torpidly suppress all our deeper feelings when we

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are brought close to the presence of pain and death, or we must learn to think deeply enough to solve in some practical way the insistent problems of freedom, responsibility, God and the great hereafter. Not only is this profounder thought possible, but the minds well posted in the masterly arguments set forth by the eminent philosophic thinkers of modern times, such as Martineau, Caird, Lotze and John Fiske, know that it has already been achieved; and it only needs due diligence in these morbid bewailers of the incompetency of the human reason to dominate the problems most crucial to modern faith. Those who have conquered them are well aware that the chief incompetence is to be found in the unreflecting individual's own bewilderment of thought. It does not lie in the inefficient mental equipment provided by the Maker of all for the human reason in the battle of life.

So, also, that recent charge against our universe and the Divine Government which certain men of scientific reputation have indulged in, as they have made amateurish exploring trips into the field of religious philosophy, viz: that Nature is an irrational and unmoral realm and the only Force in it that we can call Supreme and Creative is a blind and impersonal one—what else does this disclose than a superficiality of reflection? For it evidently

forgets that which in the very next page it usually boasts over—the law of evolution as a steadily ascending progress, as a series in which man is shown to be organically connected with the domain of Nature, animal life and the material environment below and about man—a series that rises out of Nature as its completed product and purposed end. But if man be thus the destined crown of the developmental order, that very fact supplies the triumphant answer to these cynical criticisms. For in man, an inseparable part of Nature and its very acme, there emerge the very attributes of rationality, personality, ethical and spiritual attributes denied to the cosmos and its informing, constructive Life. But it is plain that nature could not give to man these traits and faculties unless nature previously possessed them in her secret depths, with power to give. The evolution of spirit in man implies the original involution and residence of Spirit within Nature. Nature is, therefore, not to be regarded as a dead, unmoral mass, but as the vital organism of an Omnipresent Spirit. The infinitely outstretched cosmos is but the outward body of an invisible and equally infinite and eternal Life, whose deep mysterious attributes cannot be lacking in the refulgent perfections that have burgeoned and bloomed so wonderfully from their deep and fertile roots.

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Or take up any of the other points, such as the benevolence of the Father of Spirits, the question of miracles, the problem of evil, the possibility and method of a survival of the soul—almost any, in fact, of the burning issues in natural theology—and it will in most cases be found that the chief thing for their hopeful settlement is this deeper and more thorough inquiry. In order to vindicate to-day the great realities of religious faith we should remember what Lord Bacon so well said of the doubters of the 17th century: “A little philosophy inclineth man’s mind to atheism, but profounder philosophy bringeth man’s mind back to religion.”

As modern science finds that life originated, not on the surface of the earth, but in the seawater, whose chemical composition is so close to that of the human organism, so may a reasonable faith be born again “de profundis,” and emerge triumphant like Aphrodite from the Ægean waves.

Our preachers and theological writers should delve in the depths. The pulpit that would command respect in this age of free inquiry cannot ignore the grave problems that assail thoughtful minds, albeit such discussions do not entertain the children or the devotees of fashion. The remedy for popular doubt is not in fervid oratory or revival tricks that may

titillate and dizzy the emotions, but in the shaking off of that mental indolence that now shirks serious reflection as a bore. Let him who longs for light, gird up the loins of his mind, determined to think problems through to the end; and his search shall not fail to find a bridal dawn of truth and hope bright enough to enable him to acquit himself as a loyal son of God.

In profounder thought and truth, then, lies the prime guide to scientific, social, personal and religious progress. And the second great source and impulsive agency is that of profounder feeling. While the heart is cold the words of the Golden Rule sound on the ear as but the patter of meaningless syllables, and social regeneration and vital religion are hopeless quests.

But realize your neighbor, let him stand before you as one who has the same needs and desires and sensitive feelings as yourself, as one to whom hunger and cold bring the same pain as to yourself; then those words, "Do unto others as ye would that men should do unto you," take on a fresh meaning and authority. Let love to one's dear ones awaken the desire and the subtle enjoyment in mutual service and let it grow outwardly in the community in which you live until the recognition that the most down-trodden member of that

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community is formed of the same aching flesh and nerves as yourselves; then a vibration of compassionate helpfulness and social affection will begin to move within with such urgency as to make the Heavenly Father's love and care of his human children and their gratitude and loyalty to him become genuine spiritual necessities of normal humanity. And in the next place, if our awakened sympathy can stir still deeper, so that at length the sealed fountains of the heart open and we discern even dimly the common divine image in all men, however submerged and distorted, and become aware of the infinite consequences of our earthly relations, then in what a blessed way will the hardness, cruelty and self-seeking begin to melt away. When this respect for the worth of man as a brother and this tenderness for the pangs of our fellows come to conscious realization, no such unnecessary wastes and sufferings as modern war now involves, with its two thousand million financial cost and its monstrous human wreckage, can be thought of without repulsion.

They who have once experienced this transmuting stir of the latent humaneness in our race recognize it with George Eliot as amongst the greatest privileges of life. They welcome even "the sad experiences that may have brought it to them as worth all their personal

share of pain and would no more return to the old torpor and narrowness than the patient who has had a cataract removed would return to the dim shadows of his purblind days."

One of our poets has said of that pure and exalted soul, Victoria Colonna, "She learned in suffering what she taught in song." This has, indeed, been the school in which all the most moving poetry of our literature has been learned. As we watch some active helper of her kind, going on her cheery and cheering way with helpful hand and encouraging voice, we are apt to fancy that it is because her own lot is so bright that she bears thus easily the burden of others. But if we are fortunate enough to know her intimate experiences, we often find that it was not because she has been exempt from trial, but rather just because of her own heart-aches and her consciousness of the universality of sorrow and weakness in the world, that she has gained this delicate art of tender consolation.

He who would obtain the victories of the spiritual life should, then, seek the strength of the hidden things, the irresistible momentum of the eternal principles whose potent indwelling makes common clay a soul.

In regard to many and many a man whom we meet in business or social intercourse we somehow feel that, successful and important as

he seems to be in the scales of the world's opinion, yet he is only what Aristotle defined man to be, "a political animal." He is neither a social soul nor a spiritual being. He has hardly caught a glimpse of the inner heart of being, pulsing beneath the veil of visible things. Such a man will never see but half the glory in which the world is bathed. He will never make a poet nor a composer nor in any humbler, but equally effective fashion, will he move the great world forward an inch out of the dust of the actual toward the kingdom of the ideal. He who would accomplish something on that higher plane must let character weigh more with him than steel or gold, and he must discern that the true essence of man lies in that which allies him with his Maker, and he should see how much more constructive power and upward guidance in the destiny of nations lie in the truths expressed in a single verse of the Beatitudes than in all the cannon and mines of Cherbourg, Woolwich or Fortress Monroe. It is a fact, which the candid study of history will abundantly prove, that the origin and steady propulsion of the great historic movements lie hidden in potencies of a more subtle type than the masses suspect. They are to be found in the intellectual and moral vision of a few great leaders who discern by a lofty and inexplicable instinct certain

eternal principles of right and truth and magnetic good-will. And as they courageously adopt them, the infinite energies of the cosmic Dynamo become connected with them and reinforce the finite powers of the man with the invincible co-operation of the Divine. To the world of conventional time-servers and trimmers, such seers and prophets seem rank visionaries and their proposed steps of progress mere chimeras. But in reality they are the sanest of men. They are wielding great and real forces, though to ordinary men they are as hidden and magical as the invisible currents of a wireless station, speeding on the undulations of the ether over miles of trackless seas, are to semi-civilized tribes. While inert traditionalists look with hopeless awe at the massive and lofty walls of ecclesiastical or institutional Jerichos, whose frowning battlements seem to mock every assault of the soldiers of reason and righteousness, the sappers and miners of advancing public opinion, guided by the light of spiritual insight, persevere steadily in pushing in their charges of moral lyddite and intellectual dissolvents, until at length, on some auspicious day, the irresistible chemistry of higher public opinion, released in full force by the electric discharge of some unusual wrong or contagious compassion, lays low the frowning citadels and trans-

figures the ruins of the dead past with the circling bow of promise and the sunshine of the happier future.

The eternal force inherent in every tiniest electron of the whirling molecules is one that is ever repairing the organic decay, transmuting ooze and excrement into fragrant rose and luscious orange and dimpling babe. The energizing and subtle fluid that pulses through the veins of our unwithering world is a vital blood and therefore ever presses toward growth and enlargement, toward ampler efficiency, toward the reasonable, the more precious worth. It is the same animating Divine Life that circles in such orderly progress in the condensing nebulæ and in the budding blossom and at length in the soul of man reaches upward in earth-spurning aspirations. So it is the same eternal forces of growth that have ripened the foremost spirals to happy worlds that also ferment in the heart of man and in the veins of every community that has not begun to degenerate. The salvation and glory of man is to ally himself with this Eternal Reality that ever works for righteousness, illumination, and widening love and harmony. It is by this august alliance with the Soul of our souls that the loyal individual's strength and influence are multiplied tenfold. He who would have the incomparable force of the

cosmos flowing through and invigorating him must cultivate that faith that the Philistine despises. This fortifying faith is no magical password or blind and flimsy credulity, leaning on the traditional assumptions of institutional ignorance; it is the rational faith that trusts the constant order of the universe and charges its motor car with the invisible forces of God's moral and spiritual realm. Though it may have little sense basis in verifications by finger and eye, it has back of it the record of Nature's past, and the imperative assurances of our rational intuitions and our righteous instincts.

When Robert Ingersoll derisively expressed the wish that Providence had made health as infectious as disease, he overlooked the fact that the Maker had made it more infectious, though by the subtler, circuitous channels of knowledge and compassion. Those righteous laws are invincible; for

"In every nation
Every human heart is human."

In all normal communities the appeals of pity, truth and conscience will receive deserved response. The divine serums are always regenerative. The blood that in every century and every nation renews the sympathetic Brotherhood of Man is a liquid thicker and more

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quickenings than water. Let us confide without hesitation in the splendid radiation of every patriotic earnestness, in the eternal influences of every righteous effort and in

“The sweet presence of a good diffused
And in diffusion ever more intense.”

The counsel of the ages to the perplexed and discouraged soul is this: “Root your life deeper each day in the eternal things of God. Even though the ways of Providence lead into fathomless waters of care and bereavement, let us walk forward into the depths with unswerving trust. How often in life is it the very loss of prestige or friends or worldly goods that gives a man back possession of himself?

Let us not murmur at the guiding Hand which brings us into difficulties as if it aimed thereby to mire us in them permanently. Rather let us confide that through whatever “covered way” we have to grope, it is a way that will bring us through the gloomy tunnel to a larger outlook, where with clearer vision we may see the heaven-kissing heights, before hid by the nearer and lower hillocks. Onward and upward let the loyal child of God, a stalwart soldier and pioneer, push on, to catch through the mists and shadows, at each milestone of life, new glimpses of the beneficent sweep of the grand purposes of the Divine

Goodness, new assurances of the majestic bend
of that sky-bright dome of purer blessedness
and fuller real life, which God steadfastly
arches over the head of the poorest son of God
who looks upward with human eyes.

What still unfathomed wisdom lurks in the
lines of Ralph Waldo Emerson!

“Profounder, profounder, man’s spirit must dive.
His aye-rolling orbit at no goal will arrive.
The heavens that now draw him with sweetness
untold,
Once found, for new heavens he spurneth the old.”