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RECIPROCAL RELATIONS OF MAN AND THE UNIVERSE.

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I.

BEFORE we are fully prepared to consider, in all its length and breadth, the important proposition that society can and should seriously undertake the artificial improvement of its condition upon scientific principles, strictly analogous to those by which the rude conditions of nature have been improved upon in the process which we call civilization; before we are wholly ready to enter upon an argument to prove the feasibility, the desirability, and the right of society, as such, to adopt an aggressive reform policy, guided entirely by scientific foresight, rendered possible by an intelligent acquaintance with the fundamental laws of human action; before we can justly contemplate man in his social corporate capacity assuming the attitude of a teleological agent, and adopting measures in the nature of final causes for the production of remote beneficial effects,—before we can properly rise to this position, it seems necessary that we should first seek to obtain as just and true a conception as the mind is capable of grasping, of the real and precise relations which man and the rest of nature mutually sustain to each other. This general and complex problem naturally resolves itself into two more special and simple problems. These are:

First,—What is the attitude which nature assumes toward man? and

Second,—What is the attitude which man should assume toward nature?

These are the fundamental questions, upon the answers to which all human conduct other than that prompted by mere impulse depends. They are, therefore, the questions which society must carefully consider and correctly answer, before it can hope successfully to cope with the obstacles to its self-directed progress.

We will consider these questions in the order in which they have been stated.

First, then, what is the attitude of nature toward man?

In the first place, nature stands to man in the relation of the whole to a part. Man is an integral part of the universe, and, in order to be correctly conceived and properly studied, he must be conceived and studied as an objective phenomenon presented by nature, "*Der Mensch ist selbst Erscheinung*" (Kant, "Kritik," s. 382). Neither the animal and vegetable forms, nor the rock formations, nor the chemical elements, are

more to be regarded as natural objects for scientific study than are individual men or human societies. The laws governing the migrations of birds, or the geographical distribution of plants, or the movement of storms, or the elective affinities of chemicals, are not more the legitimate subjects of scientific investigation than are the individual or collective actions of men or the changes that take place in human opinions or public sentiment. From the scientific point of view, all phenomena are equally legitimate objects of study.

In the second place, nature presents the relation of progenitor of man. Man is not only a part of nature as a whole, but nature antedated him and has produced him. This, however, is true only in the sense that it is true of every other part of nature, every other object in the universe. Every animal, tree, rock, metal, or gas that we know is in precisely the same manner a product of nature. Time was when it had no existence as such an object, and, in the course of the eternity of changes which have been going on in matter, it has here and now assumed its present shape and character. Man is simply one of these many products. He, too, has been slowly evolved out of materials which have, indeed, always existed, but have but very recently assumed this form. The particular form, character, structure, and attributes which belong to the creature denominated "man" are such as they are in virtue of an inexorable necessity involved in the nature of things; they are the result of the intersection of coincident forces, the activities of molecular aggregates, possessing just such degrees and kinds of aggregation, and thrown into just such relations to one another, as were adapted to the development of just such a being. The necessity of his existence is, therefore, just equal to the impossibility of his non-existence. Both are absolute. Nature, therefore, occupies the relation to man of cause and effect, of antecedent to consequent. But the process of causation is of the strictly mechanical kind. He is the product of an infinite series of infinitesimal impacts in one general direction. He has, as it were, been gradually pushed into existence by a storm of pelting atoms continued through millions of years. Forces, as thus defined—and this is the only rational theory of force—have surrounded the elements out of which he was created on that spot, wherever it may have been, which was the true cradle of the race, and moulded him into human shape after having first compelled him to assume for ages successively the shapes of a long line of ancestral animal types. The same forces have impelled him on through advancing grades of physical and mental development to his present condition. If he tended to swerve to the right or to the left, these forces sustained the wayward tendency by increase of power on the faltering side. Tendencies to abort, revert, or retrograde were counteracted by persistent impulses, so that, in most parts of the great spreading tree which the human families present, the tendencies have been steadily, though slowly, forward in the scale of organization. But so, too, must we regard the small progress made by man, particularly by some of the ramifications, as due to counter or opposing forces, and the real progress achieved as representing only the resultant of all the classes of forces which have constantly affected his condition.

In the third and last place, nature must be regarded as *unconscious*. Throughout all the changes which have resulted in the evolution of man, the process has been purely automatic. No thought, no idea, no plan, no purpose has entered into the great cosmic movement. As the winds blindly obey the physical laws of the earth's especial character, due to its motions, its proximity to the sun, its orbital inclination, and its methodless land and water distribution; as the clouds gather, break, and pour their contents back upon the earth, and then vanish or go flying across the sky, impelled by wild, senseless, and reckless forces; as the cataract plunges and the volcano belches in obedience to stern physical impulses, to which no one thinks, except metaphorically, of attributing motive or intelligence—so all the great secular processes of nature, including the development of organic forms and of man, have been impelled by blind and mindless energies, guided by no intelligence or conscious power, either from within or from without.

The inherent motions of the ultimate atoms of primordial matter, as eternal, uncreatable, and indestructible as those atoms themselves, must be regarded as the all-sufficient cause of all the results we see, however complex and wonderful we may consider these results to be. But really there is no occasion for wonder. The first step in primordial aggregation is the only fact that need draw upon our imagination. Granted that material units tend to cohere into units of higher orders—a fact of common observation in all the established sciences—and the evolution of a man is no more remarkable than the evolution of a metal or a crystal. In the history of the universe there is no time-limit. A process once set up in a given direction may reach all the degrees that can be embraced in a finite series: it may be oversloughed at its inception by counter tendencies, it may continue for an unlimited period at a uniform rate, or it may go on increasing in an arithmetical or a geometrical progression for a vast but finite period, and eventually equilibrate itself. The fundamental principles of Evolution, as formulated by Spencer, require that all processes shall, in fact, reach a limit, and be followed by a reversal of the activities which they have manifested. But to finite beings, this great cycle, or the ascending series of any cosmical process, may as easily be so prolonged in time as to be practically infinite in duration, as to be reduced to the mere span which can be watched by the human eye. The process that has evolved the solar system, or the sidereal system of which it forms a part, has lasted no longer, relatively to absolute eternity of time, than has that which measures the birth, lifetime, and death of an infusorium as it takes place under the continuous gaze of the microscopist. Neither, if measured by this standard, is the degree of organization of a Newton greater than that of a vibrio. There are some who smile at the mention of such sweeping comparisons; but the human mind must learn to accustom itself to contemplate nature in its true relations and magnitude, and the human race can never rise to a just conception of nature, or of the reciprocal relations of man and nature, until the notion of infinitude, both in time and space as well as in power, has been definitely formed. It is narrow, finite, anthropomorphic conceptions of the uni-

verse which have dwarfed the labors of otherwise great minds, and kept back the truths which the world now chiefly values ; and it is due to the enlargement of men's views respecting the vastness of nature's periods and spaces that all true progress in our acquaintance with the universe has been achieved.

The two categories of time and space have been at last acknowledged as admitting unlimited series of relations of succession and co-existence ;* but the category of causation is as yet restricted to finite series of phenomena. This, too, must be enlarged and the truth recognized that forces have been at work from all eternity, and that processes of vast duration have been required to produce the effects which we behold around us. A series of changes in the direction of organization may as easily be conceived to extend through millions of centuries as through a few thousand years ; and such a conception clears away at once that thaumaturgic character which such phenomena usually present. *Nil admirari*. Amazement at the lofty reaches of natural processes belongs to the infantile stage of the human mind. The enlightened intellect may contemplate with a serene satisfaction of the highest order the relatively vast operations and achievements of physical law, and this is the final and purified form of what is called the religious sentiment in man ; but to lose one's self in wonder and awe is only to confess ignorance and refuse instruction.†

Neither is there more need to assume an external conscious and intelligent guiding power in biology and anthropology than Laplace‡ found in astronomy. The directive law is that of Adaptation. It is surprising to see how difficult it seems to be for the human mind to grasp this conception in its entirety. When Du Bois-Reymond defends the explanation of Galiani, who illustrated the apparent harmony in nature by the example of the loaded dice, he evinces a total inability to comprehend the fundamental notion of natural adaptation. What better is the theory of the loaded dice than the doctrine of external teleological design ? How came the dice loaded ? Who loaded them ? If not a personal deity existing outside of nature and antedating it, then what other agent can be named ? Clearly this is no new explanation, but only the old one with a somewhat novel illustration.

How, then, is the harmony we see to be accounted for ? We shall presently see reason to believe that the degree of adaptation in the world is far less than is popularly supposed, but it nevertheless exists in an obvious way. Yet it is effectually accounted for by the not at all circular proposition that things *are* adapted because they *have adapted themselves*. What we see exists of necessity. It might have been

* " In the economy of the world I can find no trace of a beginning, no prospect of an end." - *Hutton*.

† Auguste Comte, " Philosophie Positive," viii. 321.

‡ It is related that once, when asked how he could have written so great a work as the " Mécanique Céleste," on the subject of the system of the universe, without once making mention of its Author, he replied : " *Je n'avis pas besoin de cette hypothèse-là*" (" I had no need for that hypothesis "). M. Ed. Perrier quotes Laplace as follows : " *Dieu est une hypothèse dont la science n'a que faire*" (" *Rèvue Scientifique*," 22 Mars, 1879, p. 891).

other than it is, had the conditions been other than they were. The conditions being what they were, the results could be no other than they are. A certain degree of adaptation is necessary to the existence of a form; therefore, for forms to exist at all, they must be to a certain extent adapted. If those forms that now exist had not existed, others must have existed. These, like the present ones, would also have been adapted. They would have stood the same chance to be higher as to be lower forms. We have as much reason to wonder that we do not see higher forms, as that we see forms as high as those actually existing. Were men not sufficiently adapted to their surroundings, they would not exist to contemplate their want of adaptation. If animals and plants were not similarly adapted, they would likewise be wanting. Therefore, instead of wondering at the degree of adaptation displayed, the only true object of wonder would be the existence of wholly *unadapted* forms. But these are never seen, because they cannot exist. In nature there are none but loaded dice. This is no chance world. It is a world of law, of mechanical causation, of necessity. The example of the dice is a poor one. In only one sense can it be made to apply. If we assume the number of dice thrown to be unlimited, only a small percentage of which are loaded, and all that are not thus loaded to be lost, a crude conception of nature's process may be formed. But there is no distinction between the dice and the players. One set of dice is the causal antecedent of a new set, from which, as from the parent set, only the loaded ones are selected and the rest lost. But, still, the analogy is forced and awkward.

II.

As will be more fully shown further on, nature's processes are not teleological, but genetic. The cause not only always precedes the effect, but it immediately precedes it. The effect is in immediate proximity to the cause. The changes take place by differentials, and all advance is through differentiation. Differentiation is distinguished from variation in that the changes are necessarily produced by means of differences too minute to be severally taken account of. It is a molecular process. The motion of one molecule is directly imparted to others. The single effect is imperceptible, but multiplication and repetition, number and time, accomplish the results observed. An initial motion inhering in the primary form of matter is, therefore, the sole source of all causation and the true "first cause." This explanation of the universe, although substantially that of Epicurus, Democritus, and Lucretius, has thus far failed to receive an appropriate name. That of the "Atomic Theory," never adequate to the full conception, has now been transferred to the chemical law of proportions. The idea of matter in motion, which embraces the totality of the conception, would be well expressed by the Greek word *Hylokinensis*, and this mode of viewing phenomena could then be referred to as the *hylokinetic* theory.

The wholly unconscious and unintelligent character of nature's processes may be safely concluded from their genetic stamp. Intelligence works quite otherwise. The inseparable characteristic of conscious action is, that it is teleological. Cause and

effect are remote from each other. Means are adapted to distant ends. The chain of causal impulses connecting antecedents with consequents is not direct. The advantages are proportioned to the interval. The more remote the effect from the cause, the greater may the disproportion be made between the cause and the effect. Such causes are called "final causes," and the same amount of energy expended in them may be made to multiply the effect to almost any required degree. Nature never employs the "final cause," but only the "efficient cause." But the tendency to organization which has existed on this planet for a vast period, in connection with the increasing adaptation of the conditions now found upon its surface from the time when it first displayed a cooled exterior to the present time, has gradually evolved a class of forms called animals, in which the remarkable quality denominated consciousness is manifested. This quality exhibits all conceivable degrees, from that seen in the monad to that found in enlightened man, and throughout this series the capacity for teleological action has steadily and uniformly kept pace with the degree of intelligence. We are therefore forced to conclude that consciousness and intelligence are products of organization; that organized beings are, as it were, devices for the concentration and intensification of molecular activities; and that mind and thought are among the necessary products of such concentrated and intensified activities—the properties of matter thus organized. The "soul of truth," therefore, in the belief that the universe possesses consciousness, intelligence and mind, consists in the fact that the primary activities of diffused matter—activities which are never divorced from it—constitute the sole element out of which, by simple focalization, these qualities are produced. But the thought must be dismissed and wholly abandoned that in their diffused unorganized state these activities actually constitute intelligence. As well proceed upon the assumption that "grass" is really "flesh," because it is known to be convertible into it by a given process. The essential condition is that process, and without it there is no result. Mind is found only at the end of the series, and not at the beginning. It is the distinctive attribute of the creature, and not of the creator. It resides in man, and not in nature. Unless this truth is recognized, the true attitude of nature toward man can never be correctly understood.

We may now, with equal brevity, consider the second division of the general problem of the mutual relations of man and nature, viz.:

What is the attitude which man should assume toward nature?

Without specializing here, it will suffice to say that this attitude should be of a two-fold character: first, that of a student; and second, that of a master.

Man finds himself an integral part of this great unconscious creative whole called nature, only a minute fraction of which can by any possible means be brought within the range of his experience. Although it consists chiefly of large masses, yet, in fact, these masses are composed of molecules so minute that probably no magnifying power can ever render the largest of them visible. It is this fact chiefly which gives rise to so many fundamental errors in primitive human judgments. One of the most powerful

agents on the earth's surface, and at the same time one of the most important and interesting objects with which men have always and everywhere been compelled to come in contact, is an invisible gas, the earth's atmosphere, the existence of which as a real substance was scarcely suspected until chemistry had become a science. It is easy to imagine what a fruitful source of error such an object must be to an ignorant world. But this is only a single example. Others, less apparent, but productive of far more injurious illusions, surrounded the primitive man on every hand. A few of the great delusions under which the race has labored, and still labors, have been already pointed out. The evils entailed by this ignorance of his surroundings are incalculable. Indeed, the greater part of all suffering is the result, direct or remote, of such ignorance. Obviously, therefore, the first great duty of man is to acquaint himself with his environment. This can only be done by study. The phenomena that lie on the surface are of little value. They mislead at every turn. Not only must the deep-lying facts, difficult of access, be sought out with great labor and perseverance, but they must be co-ordinated into laws capable of affording safe and reliable guides to human operations. To do this requires a vast amount of patient study. Only a little has yet been revealed of the more important truths of nature, yet consider the amount of research which it has required! Nevertheless, only a few individuals have contributed anything at all to the result. It is as yet only the simpler and more obvious relations between man and nature that have been determined. In the domain of physical forces and chemical substances he is able to exercise prevision in many ways to secure advantages and avert evils, but in most of the higher fields of vital, mental, moral, and social phenomena, these relations are either utterly ignored or but dimly suspected, so that his knowledge of them avails him nothing. The great work before him, therefore, still is study.

In the pursuit of information with regard to the nature of the universe and his position in it, he must be deterred by no fears. If he can evade the action of natural laws, he has no other source of apprehension. Nature has neither feeling nor will, neither consciousness nor intelligence. He can lay open her bowels and study her most delicate tissues with entire impunity. Except as the great creative mother of all things, she is absolutely passive toward all sentient beings. Man's right to probe and penetrate the deepest secrets of the universe is absolute and unchallenged. It is only he himself who has ever ventured to question it. His active brain, filled with a thousand other delusions and imaginings, has fancied gods and demons outside of nature forbidding him to prosecute his studies. But none of these have ever presented themselves—except in imagination—to the student of nature, demanding that he desist. Errors of this kind, however, coupled with a general aversion to the laborious methods essential to success in such study, and a total misconception of what constitutes true knowledge, have prevented the race from making the degree of progress in determining its relations to the universe which its brain-development and its mental activities prove that it might have made under wiser directive influences. Even Lord Bacon

(Nov. Org., lib. i. aph. 1), in a modified way reflects the ancient superstition of man's subserviency to nature. He should, indeed, be the interpreter, but in no proper sense the servant, of Nature; and the only way in which we can correctly interpret his frequent remark that Nature can only be conquered by obeying her ("*Neque natura aliter quam parendo vincitur*," Works, i. 227, etc.), is to make this obedience equivalent to an acquaintance with and recognition of her laws. He has been the servant of nature too long. All true progress has been measured by his growing mastery over her, which has in turn been strictly proportional to his knowledge of her truths.

This is why, in the second place, man should assume toward nature the attitude of a master or ruler. By this is, of course, meant an effort to exercise over all natural forces and phenomena a degree of direction and control sufficient to protect himself from injury, and to procure for himself all the benefits which they are capable of rendering. These forces and phenomena are neither good nor bad. No moral quality resides in them. Good or bad can only be predicated of an intelligent agent, and, as we have seen, nature is not such an agent. But, in the uncontrolled operations of natural laws, beings capable of feeling are liable to be injured. In an ever-changing environment, that degree of correspondence can never be reached in which no friction can occur. It is this perpetual conflict of every species with its adverse surroundings, this grinding at the outer boundaries of its sphere of activity, which constantly keeps its numbers down to moderate limits and its members restricted to definite geographical areas. When we compute the power of multiplication of any species, even the least prolific, and compare this with the actual number capable of surviving and really extant, we are helped to realize the potency of this influence as perpetually exerted by an adverse environment. The degree of adaptation is not so perfect but that for every one that survives from ten to ten millions are destroyed. In man, this ratio is less than in any other animal, and it is this fact which has enabled him, to so much greater an extent than any other animal, to increase his numbers and expand his territorial limits. This has been due to his superior sagacity and cunning, to his intelligence, which in turn has given rise to society, to government, and to other protective institutions.

Altruistic morality, in its incipient form, arises as soon as intelligence begins to counteract the natural influences which restrict population. One of the secrets of the success of the human race in peopling the entire globe has been this moral sense, which impels men to protect others where natural laws would destroy them. Government, which has this extra-natural protection for its object, had its rise in this altruistic sentiment, though in a very undeveloped form of it—a sort of egoistic altruism, protecting others for the benefit of self. But even this first and perhaps greatest step taken by the race must be attributed to an increased acquaintance with its relations to the world around it. This knowledge was of an empirical kind, but it served its purpose. All the truly sociological progress thus far made has been based on empirical knowledge. It has sufficed to place man where we find him, which is a truly grand

result. It must, however, teach us the important lesson that nature is really easily controlled. A very little acquaintance with natural laws is sufficient to enable us to achieve stupendous effects. But the future of the human race must not be too confidently inferred from the past. The difficulties increase at a much greater rate than the density of population. The complexity of civilization augments at a rate altogether out of proportion to the advance of intelligence. Moreover, in the present state of enlightened societies, the progress being made by the *elite* of the world in scientific discovery and mechanical applications has reached a stage which is far beyond the possible power of the masses, under existing methods of instruction, to comprehend it. This tends rapidly to increase the disproportion and confusion in society, and threatens to precipitate the grand crisis which wise men cannot but foresee approaching, unless a radical change is soon inaugurated in the social constitution of the civilized world. Science must supplant empiricism, and fundamental knowledge be universally diffused.

The principal object which man has in the study of nature is to enable him to control its forces. To only a few minds is the satisfaction derived from the mere acquisition and consciousness of knowledge an adequate incentive. This satisfaction has doubtless played a large part in the labors of the few who have made the scanty contributions thus far obtained, and in the individual worker it must ever constitute a supreme motive, while a possible future is conceivable, in which this, the highest source of happiness, will also be a universal and popular one, taking rank alongside of those coarser gratifications whose authority is now supreme, because it is through them that the race is preserved and perpetuated. But, for the present and the immediate future, it must be assumed that the primary end of knowledge is to secure practical advantage.

The degree of correspondence between man and his environment, notwithstanding his sagacity and intelligence, his artful devices and protective institutions, is not so great but that a large amount of friction constantly exists. This friction not only decimates his ranks and brings the majority of mankind to premature death after the manner of the fishes and of other animals, but, what should really be regarded as far worse (since the rapid multiplication of individuals could not long continue and would not be economically desirable), it involves a vast amount of physical and mental suffering, and prevents that state of universal well-being which should be the highest aim of life.

If empirical knowledge has sufficed to reduce the friction of an adverse environment to the extent which separates the condition of man so widely from that of other creatures devoid of this knowledge, it is certainly logical to argue that higher degrees of knowledge will continue proportionally to widen this contrast. If it were true that perfection in the correspondence had already been attained, this reasoning would of course be fallacious. But we have seen that such is far from being the case. The amount of suffering in the human family simply proves lack of correspondence. Men

are still continually dashing blindly against the barriers which the environment presents to their free activities. Empirical knowledge has afforded them a superficial view of the world and their relations with it; but below lie hidden truths, whose meagre manifestations at the surface are almost always wrongly interpreted, and from which conclusions precisely the reverse of the truth are frequently drawn. Actions based on these conclusions lead men into innumerable pitfalls, and entail anguish and suffering where immediate destruction is escaped. The various ways in which ignorance of these truths affects the race tend constantly to lessen the sum of possible enjoyment and to lower the tone of human life.

The success achieved by man in increasing his numbers and in widening his geographical range has been the result of a certain degree of direct control which his increased intelligence has enabled him to exercise over the forces of nature constituting his environment. Whatever further progress he may ever make in the direction of increasing his liberties, mitigating his evils, and augmenting his capacity for happiness, must result from his success in obtaining still more complete mastery over the adverse elements of his natural surroundings. A simple mechanical device is often sufficient to convert a highly injurious element into a remarkably beneficial one, and, by here repressing a harmful influence and there creating a useful one, increasingly high degrees of correspondence may be attained, and more and more perfect conditions of existence be brought about.

In the control of nature, as in its study, there are no arbitrary limitations. The right is always co-extensive with the power, and only a false, unnatural view of the case can erect any other barrier to man's invasion of nature's domain.

Such are some of the most general relations subsisting between man and nature, without a clear conception of which no basis can subsist for a scientific conception and study of sociology.

From these general considerations we may now pass to others of a more special character.

(To be continued.)



WHAT DO YOU OFFER IN PLACE OF CHRISTIANITY ?

A Lecture delivered before the Freethought Association of Denver, Colorado,

BY B. F. UNDERWOOD, QUINCY, ILL.

III.

MAN loves company, and his own nature projected into the outer world has the same needs ; hence all systems of worship involve the idea of plurality, community, and companionship. The triune God of the Christian theology is three gods in fact, even though by a kind of intellectual slight-of-hand, in order to denote the reason, he is made to appear as one. In the conception the desire for community is satisfied.

In the Christian God we have the relations of father and son, because these are essential relations of the human race. Man is a father, and man's nature viewed objectively would be incomplete without the same capacity and relation. Hence, God is a father ; he is also, in the second person, a son ; and the third person of the trinity, concerning whom or which there has been and is so much dispute, so much indefiniteness, which Henry Ward Beecher once said appeared to him as a kind of effluence that proceeds from the father and son, is the sense and sentiment of community between the two. But father and son imply a mother, and consequently the maternal element must have some representation in the projected nature of man, which appears before him as an objective being under the name of God.

With the progress of skepticism and rationalistic criticism, God loses one after another his human qualities ; and even Protestantism has subordinated the position and character of the maternal element in the divine character. The Roman Catholic Church in its theology, which has been less modified by skepticism, attaches as much importance to the mother of God as to the son of God. In the incarnation we have simply the realized wish of man viewing himself as an object of thought to see himself as an object of sense. Man's own nature "projected into objectivity" had long been an object of contemplation and reverence. There was a longing of the heart to feel, to see, to hear this being who loved man and sympathized with him in his sorrows. The incarnation is the satisfaction of that longing.

In the doctrine of the atonement human nature is still further revealed. It signifies what every father and mother have felt, what every person among us has experienced. Man's moral nature condemns many of his acts, as one lives up to his highest ideal of duty ; but love is always devising some means by which to excuse the offender, or to mitigate his punishments. The mother tries to spare her child the punishment threatened for disobedience, in some way that will not involve the violation of her word or the lessening of her authority. A king of Iran, so the story runs, ordained that any subject convicted of treason should have his eyes put out. His own son incurred the terrible penalty. The law must be enforced and justice vindicated ; but his

paternal heart felt for his guilty son, and he devised a "scheme" to "satisfy justice," and to "show his love." He caused one of his own eyes to be put out, and mercifully allowed his son to go with the loss of one eye only. In the atonement we have this same principle. God has employed man's methods because God is no other being than man himself.

We would then have all those qualities which are admired and praised in God made the direct object of consideration in man. Since it is evident that all which we reverence in God exists in man, and since man is the substance, and God is but the shadow, or the face seen in the mirror, we would make man the direct object of all our respect, and gratitude, and love, and devotion. We would build temples, and dedicate them to man and not to God. We would chant the triumphs, and sing the praises of man, not of God. We would encourage the elevation of man, not the glorifying of God. In short, for theology we would substitute anthropology; for the shadow we would give the substance; for the worship of God, the advancement and happiness of man. Profound consideration of our race, and the cultivation of the nobler side of our nature will, we fondly hope, gradually replace blind reverence for and adoration of an imaginary anthropomorphic God. Then all the time and money, all the effort and moral enthusiasm which are now directed to the advancement of the glory of God, will be devoted to the improvement of our race. As much will be done to make men good as is now done to make men theological, and the world will be better, mankind will be happier.

For the notion of creation we submit the proposition that the universe in its entirety is eternal. We thus get rid of the necessity of a "beginning," and, of course, of a beginner, a great being who was once the sole denizen of illimitable space; who was, although possessed of the most splendid powers, during a past eternity doing nothing; who was able to make a perfect universe, yet made a world which has been a scene of distress, torture, and death from the first appearance of life up to the present time.

The theory of evolution naturally takes the place of the making of worlds and the origin of life by supernatural power. We explain the growth of worlds by natural laws and natural forces, without having recourse to a world-maker. The arguments of Laplace have more weight in our mind than the mere word of an old Hebrew cosmogonist. For the doctrine of special providence and divine interference, we offer the conception of the universality and invariableness of natural law, a conception, the truth of which has been demonstrated by a wide induction, based upon the observed order of nature.

For the idea of design in nature we substitute the principle of "natural selection," which in the struggle for life gives us what Spencer has fitly termed "the survival of the fittest"; i.e., the organisms which have been able in a changing environment to adjust themselves to their medium, while a far greater number for the contrary reasons have perished. We thus account for the white bears in the polar regions, the black bear in Hindustan; for the dark color of nocturnal animals, the brilliant color of fish among the coral reefs, the unobtrusive color of female birds that sit on open nests, and even the vertical markings on the body of the Bengal tiger; also the peculiarities

of form and disposition of other animals which teleology represents were created for a specific purpose, in contradiction of all the facts with which we are acquainted.

For the notion that evil is the result of some accident in the universe—that once perfection reigned, but through the mistake or ambition of an angel evil appeared, and that all wrong and suffering are attributable to that source—we substitute the rational conception that what we call evil is non-adjustment to our conditions.

The words good and evil are relative terms that stand for events or actions that are advantageous or disadvantageous to us, but which in the order of nature are equally natural and equally necessary. In the school of experience, in which an incalculable amount of suffering has been inevitable, man has learned during the existence of the race that there are certain courses of conduct and certain processes of nature which contribute to his well being, and that there are others which are injurious to him. The former he calls good, the latter evil. Actions which a long and wide experience has demonstrated to be beneficial to him we call right; actions which he has learned are pernicious in their tendency we call wrong.

How conscience, which gives so much significance to the word "ought," has been evolved from a moral condition hardly above that of a brute, has been shown by Mr. Darwin in a manner so lucid and so admirable that no mere *a priori* theological notion deserves any consideration in comparison, or rather in contrast, with it.

Some doubt whether man knows more about moral principles than he did thousands of years ago. Even Mr. Buckle took the ground that morality is not a progressive science. Yet it seems clear to me that the experience of every age gives us clearer conceptions of our rights, relations, and duties. It is true that for ages we have been taught certain general precepts that cover all the duties of man, such, for instance, as "Be just"; but it must be remembered that progress in ethical science consists in learning what is involved in these precepts.

For the doctrine of "original sin" we substitute the scientific fact that ancestral experiences have been organized in the race as inherited tendencies, aptitudes, or predispositions. The brain at birth is not like a blank sheet of paper. It is covered with invisible writing, so to speak, which needs but the influence of circumstances to reveal it to our sight. Human beings come into existence with good tendencies and with bad tendencies. We are what we are intellectually and morally, as well as physically, largely because of our ancestors. Two beings of depraved appetites and debased moral nature, and lacking in intellectual qualities, can never be parents of children distinguished for great intellectual power and strong moral disposition.

Undeveloped savages were our ancestors, and we have received their characteristics, except so far as they have been modified by many generations of civilized life. Our bad impulses, dispositions, and tendencies, or many of them, are due to ages of savage life, they having been transmitted by the law of heredity. We thus account for whatever bad there is in our nature without

having recourse to the childish fable of the fall of man. We are no "degenerate sons of an illustrious ancestry," but rather the improved and improving descendants of savage ancestors.

We think that the bad tendencies may be gradually weakened and the good tendencies strengthened. If as much time and effort had been expended in trying to make man good as have been in trying to make him religious (in the theological sense), the tendency of his nature in the direction of right would be vastly greater than it is now. Good tendencies, love of truth, benevolence, virtue, temperance must be encouraged, increased, and intensified, and by the law of heredity transmitted and organized in the race, so that man's love of the good and the true, and his disposition to pursue them, will become almost a passion as well as a principle of his moral being.

For the doctrine of "salvation" through Jesus Christ we substitute the more rational principle of observance of the conditions and laws of our being, the cultivation and improvement of our physical, intellectual, and moral nature. We do not look back through the mists and the darkness of centuries to the gentle Nazarene for elevation and advancement, although glad to recognize his efforts in the cause of humanity; we look rather to ourselves, to the aid of our fellow-men—those among whom we live—to the powerful aids of science, to the experience of the world, and in the evolution of the race to the principle of "the survival of the fittest."

The principle of sacrifice that is admired in the atonement, we glorify in humanity. No man should suffer for the crimes of another, as Jesus is represented as suffering for the sin of man; but we recognize the fact that the world is advanced by sacrifice and suffering, and that we all have to experience the effects of the wrong doing of our fellow-creatures, and we are all benefitted by self-denials and sacrifices. But this is quite different from imputed guilt and substitutionary righteousness. We do not recognize the justice of one being suffering for the sins of another yet we may all be benefitted by a man's suffering, when he has sacrificed his life for a noble principle.

For prayers we substitute self-reliance and an intelligent use of natural forces and agencies in accomplishing our ends. We look to our own efforts for success. In danger we must rely on our own resources, and not look to an anthropomorphic deity, who never calms the ocean for the perishing mariner, nor extinguishes the fire when men, women, and children are perishing amidst flames in railroad cars, theatres, or even churches.

In sickness we trust to the skill of the physician, the care of the nurses, the recuperative powers of the human system, and not to any supernatural intervention. On the ocean in the storm, the judgment of the captain, the fidelity of the crew, the stanchness of the ship are all important; faith and prayer will avail nothing. In the woods, attacked by wild beasts, rely on your rifle, powder, and ball, or if you have not these climb the nearest tree; as you value your life do not get down on your knees and go to praying, for if you do, the animal will eat you as sure as you live. Remember what Fred.

Douglass said, that although he prayed many years for his freedom, the only prayer answered was the one that he made with his legs.

In place of the clergy we would have teachers with the ability and disposition to impart to the people useful knowledge, such as expands the mind, refines its taste, and improves the condition of man. We need more science and less theology; more intellectual culture and less pietism; more knowledge and less faith; more regard for man, and less unreasoning praise of God.

Doubt, instead of being crime, we regard as the beginner of wisdom. Without doubt there can be no investigation. Without investigation there is no advancement. Doubt is the handmaid of progress. Our motto is, "In things that can be demonstrated, unity; in things that admit of doubt, free diversity; in all things, charity."

Faith with us is confidence in the truth and right, founded upon evidence only. We have faith in the uniform operations of nature—in seed-time and harvest, in the alternations of day and night—because they are warranted by experience. All probabilities are based upon experience.

Authority with us is not the mere utterance or writing of a person of whom we know nothing, but the testimony of investigators, discoverers, and scholars whose position and knowledge entitle their statements to consideration and confidence. Lyell is an authority in geology, Gray in botany, Max Muller in philology, because they have given years of study to these sciences; but we are at liberty to appeal from their decisions without incurring censure, and to test them by our own original investigations.

We aim at intellectual and moral culture, which involves knowledge of ourselves and our relations, and a disposition to live rationally and justly. For knowledge we depend, not upon an objective revelation, but upon observation, reason, and reflection, which preceded, and will outlast, the authority of all books. The untrammelled exercise of reason, and a fearless expression of our candid opinions on all subjects which we regard as important, we regard as a duty as well as a right.

Beliefs, since they do not depend upon volitions, are with us neither moral nor immoral—for good men may have erroneous, and bad men may have correct beliefs; but since beliefs influence conduct and modify character, right beliefs we regard as important.

Hence, while we do not censure or denounce men and women for their conscientious convictions even when we deem them erroneous, we have every inducement to use argument and persuasion to show them their falsity and bad tendency.

Instead of dogmatizing in regard to the conditions of another life, or subordinating to it present interests, we hold that this life should occupy all our attention here, where there is so much to do, and where our efforts are so greatly needed. If beyond the portals of death there is another state of being, as we hope, doubtless he will be the best adapted to enjoy its blessings who discharges faithfully all the active duties of this life. Instead of teaching men to "prepare to die," we would rather have them taught how to live. Tickell wrote of Addison:

"He taught us how to live, and—oh, how high
The price of knowledge!—taught us how to die."

To me these lines are less sensible than a verse written by a friend of mine for his father's epitaph, two lines of which are as follows:

"How to live right with steadfast aim he tried,
And little recked he in what mood he died."

We can die, when the time comes, without any special directions. We need no one to teach us how to die, but what we do need is instruction how to live, and a just and upright life is the only preparation that need be made for the final event.

If, beyond this "bank and shoal of time," there is a state of being now shut from our view, it is reasonable to believe that the best way to fit ourselves for it is to attend to all the actual duties of this life. If death is the "be all and end all" of human existence, it is none the less a part of wisdom to live in accordance with the laws of our being, and to cultivate the intellect and the heart, which give us the greatest and most lasting enjoyments. "An able man," says Goethe, who believed in a future life, "who thinks there is something to be done here, and who has therefore every day to strive, to fight, and to work, leaves the future world to itself, and is active and useful in the present." And with profound contempt for that philosophy which neglects the affairs of this life for a real or imaginary one beyond the grave, he wrote: "I could be well content that after the close of this life, we should be blessed with another, but I would beg not to have there for companions any who had believed in it here."

The adherents of orthodox Christianity tell us about the consolations their faith affords them. Yet, as formerly held, it consigns to hell such men as Humboldt and Huxley, Parker and Emerson, in spite of their greatness and worth, while it promises crowns of glory and everlasting bliss to the meanest of mankind if, before their death, they repent and avail themselves of a great bankrupt salvation scheme. "He that believes and is baptized shall be saved; he that believeth not shall be damned."

For this "saving faith" we would substitute intellectual and moral worth as the primary condition of well being, wherever man as he is now constituted may exist. We would not hold up a heaven beyond the clouds to the gaze of mankind, and make the great object of life to consist in obtaining a "mansion" there; nor do we picture a frightful hell and make it a virtue to refrain from evil in order to escape that place. A man who does right simply to get to heaven acts from selfish motives; he who avoids doing wrong from fear of hell is morally a bad man. The theological doctrine of heaven and hell promotes selfishness.

"He that giveth to the poor lendeth to the Lord," is a common saying. I affirm that he that "giveth to the poor," intending it as a loan to the Lord, is not a whit more unselfish than a banker who loans money to a firm whom he regards as responsible, on receiving from them a "promise to pay for value

is not a whit more unselfish than a banker who loans money to a firm whom he regards as responsible, on receiving from them a "promise to pay for value received." The man who gives to the poor with no thought of God or heaven, with no expectation of any return or reward except the satisfaction of having helped a fellow being, acts from the highest motives; the man who gives, thinking god will repay him, principal and compound interest, acts from no higher motive than those of the ordinary money-lender. We need to repress, not to promote and intensify, human selfishness. The less we talk about objective rewards, in the form of "crowns of gold," and "mansions in the skies," and develop the affections and sympathies, and form and strengthen the benevolent and disinterested tendencies of human nature, the better, truer, and nobler will man become.

We will sum up briefly what we have presented.

1. Instead of aiming at the complete and sudden destruction of Christianity, especially as it is defined by many of its representatives, we endeavor by wholesome criticism, by favoring courageous independent thinking, and by diffusing knowledge, to assist men and women to outgrow the errors and absurdities of their creeds, and at the same time to aid them to accept and to assimilate the facts and principles, the science and philosophy, of which these errors and absurdities are a denial.

2. Whatever is good and true in the creeds we would perpetuate and strengthen; but since this valuable element, so far as morality is concerned, is not confined to, nor dependent upon Christianity, opposition to Christianity as a system of religion no more implies opposition to the good principles and precepts it inculcates, than a rejection of Buddhism or Mohammedanism, as systems of religion, involves the rejection of the general element of morality which they contain.

3. To the question, "What will you give in the place of the Bible?" we answer; There is no design or disposition to destroy the Bible. We accept it for what it is worth. For the Bible, considered as a standard and test of truth, of right, and wrong, we substitute the enlightened human reason.

4. To the question, "What in the place of belief in God?" we reply that all classes of thinkers recognize eternal, self-existent substance or power, from which we came, and on which we, as conscious beings, depend for existence. The difference between the theologian and the naturalistic thinker is not as to the reality of a permanent eternal reality—by whatever name called—but as to the logical propriety of investing this eternal reality with human qualities—personality, volition, intelligence, love, etc. Instead of worshipping these qualities in the eternal existence, we recognize and admire them in *man*, to whom they belong.

5. For the notion that the universe was spoken into being, we substitute the belief that the universe is eternal; and for the doctrines that life and species were created by a miracle, we offer the view that they are the result of a process of evolution, in accordance with natural law. With us natural selection and natural adaptation replace "design."

6. For the notion that evil is due to a malicious devil, we substitute the

idea that it is the result of non-adjustment, due largely to our ignorance, that it is relative, and the distinction between right and wrong has been learned by experience.

7. For the doctrine of "original sin," we present the view that we have been developed from savages, and many of our bad tendencies have been inherited from savage life, not from a *fallen Adam*. We have risen, not fallen.

8. For the doctrine of salvation through Christ, we substitute the cultivation and improvement of ourselves and race by natural methods.

9. The principle of sacrifice that is given such prominence in the doctrine of the atonement, we admire in all patriots and philanthropists who have died for country and race.

10. For prayer we substitute reliance on ourselves and fellow-men, and the use of natural means for our protection and elevation.

11. The clergy we would, as fast as the people demand it, replace with teachers of useful knowledge.

12. Instead of condemning doubt in regard to religion, we encourage it.

13. "Faith," based on evidence, we would have take the place of theological faith; and for the authority of Moses and St. Paul we would substitute the authority of investigators, discoverers, and scholars—their authority always to be regarded as fallible and their claims to be tested without involving guilt or censure.

14. For knowledge we depend on observation, reason, and reflection, and not on a revelation.

15. Instead of condemning men as criminals for honest convictions on the subject of religion—whatever they are—we try to appeal to their minds by argument if we think they are wrong.

16. Instead of saying, "prepare to die," we say, learn to live; and instead of teaching people to "prepare" for another world, we say, make the most of this, and if there is another, faithful attention to matters that concern us here must be the best way to fit ourselves for the "hereafter."

17. And finally, for "saving faith" we would have intellectual and moral truth.

This is my answer to the question, "What do you offer in the place of Christianity?" I trust I have shown that the thought of the "unbeliever" and the "agnostic" may be positive as well as negative, constructive as well as destructive; and also that it may be eclectic, catholic, and cosmopolitan in its teachings and its tendencies.

TRIBUTE TO ROBERT G. INGERSOLL.

BY G. H. BUEK.

"The hands that help are better far
Than lips that pray."

IN the little town of Dresden, in Western New York, on August 11th, 1833, was born "the most fearless champion of intellectual liberty, the most aggressive and formidable enemy of superstition—an orator whose equal in eloquence, magnetic and poetic power, and inimitable grace and beauty, the English-speaking race had not before produced"—Robert G. Ingersoll.

No man of his time, possibly no man of any time, was ever endowed by nature, to the same extent, with all those qualities that make a man great and popular.

As has often been told, his father was a Presbyterian clergyman, and because of this fact, some good people think that he should not have antagonized, as he did, the creed of that denomination, nor have attacked the Christian religion in general. Robert Ingersoll has often been charged with lack of reverence for his parents. In reply to this charge he once said: "You never can honor your father by going around swearing to his mistakes. You never can honor your mother by saying that ignorance is blessed because she did not know everything."

The religious teachings of his time did not satisfy his brain, and filled his heart with horror. He investigated for himself the questions and problems that touched the human race. "No error could be old enough—popular, plausible, or profitable enough—to bribe his judgment or to keep his conscience still."

He did not claim to know more or less than any other human being regarding the problems and mysteries of life and death, or regarding the plan of the universe. When asked if there be a God in the universe, he honestly admitted that he did not know, and once humorously said: "I do not know whether there is any God. I live in one of the rural districts of the universe, and I do not know anything about it."

Of the mystery, which we call "Life," he said:

"How little, after all, we know of what is ill or well! How little of this wondrous stream of cataracts and pools—this stream of life, that rises in a world unknown, and flows to that mysterious sea whose shore the foot of one who comes hath never pressed! How little of this life we know—this struggling ray of light 'twixt gloom and gloom—this strip of land, by verdure clad, between the unknown wastes—this throbbing moment filled with love and pain—this dream that lies between the shadowy shores of sleep and death. We stand upon this verge of crumbling time. We love, we hope, we disappear. Again we mingle with the dust, and the 'knot intricate' forever falls apart."

Of death and immortality he has so beautifully said:

"I would not for my life destroy the faintest ray of human hope. The idea of immortality, like the great sea, has ebbcd and flowed in the human heart—beating its

countless waves of hope and joy against the shores of time, and was not born of any book, nor of any creed, nor of any religion ;—it was born of human affection. The basis of the idea of in mortality is human affection and human love, and it will continue to ebb and flow beneath the mists and clouds of doubt and darkness, as long as love kisses the lips of death ; it is the rainbow of hope shining through the tears of grief—we love, therefore we wish to live ; and I have a thousand times more confidence in the human heart—in the deep and splendid feelings of the human soul, than I have in any book that ever was, or that ever can be written by mortal man.”

Again he said :

“ We do not know, we cannot say, whether death is a wall or a door, the beginning or end of a day—the spreading of pinions to soar, or the folding forever of wings—the rise or the set of a sun, or an endless life that brings rapture and love to everyone.”

He believed in the unbroken and unbreakable chain of causes and effects, and that “ whatsoever a man sows that shall he also reap.”

He claimed that all questions were open and subject for honest thought and frank discussion until they had been satisfactorily answered. He gave his reasons, and demanded reasons from others ; he insisted upon the widest liberty of thought and speech, and cheerfully gave to others what he demanded for himself. It has been said, over and over again, that he was a destroyer only and gave nothing in return for that which he took away. This is the criticism of those who either misunderstood him, or of those who did not or would not read what he had said and written, or who were willing to malign and slander him because they could not answer his arguments.

For the religion of other worlds he substituted the religion of this, and said :

“ Superstition is not religion. Belief without evidence is not religion. Faith without facts is not religion. What is religion ? To love justice ; to long for the right ; to love mercy ; to pity the suffering ; to assist the weak ; to forget wrongs ; to remember benefits ; to love the truth ; to be sincere : to utter honest words ; to love liberty ; to wage relentless war against slavery in all its forms ; to love wife and child and friend ; to make a happy home ; to love the beautiful in art, in nature ; to cultivate the mind ; to be familiar with the mighty thoughts that genius has expressed, the noble deeds of all the world ; to cultivate courage and cheerfulness ; to make others happy ; to fill life with the splendor of generous acts ; the warmth of loving words ; to discard error ; to destroy prejudice ; to receive new truths with gladness ; to cultivate hope ; to see the calm beyond the storm ; the dawn beyond the night ; to do the best that can be done and then to be resigned. This is the religion of reason, the creed of science. This satisfies the brain of the wisest and the heart of the best.”

This was his creed. This was his religion, and nothing can be grander or more perfect. Love was the great corner-stone of Robert Ingersoll's life, and of it he said :

“ Love is the only bow on life's dark cloud. It is the morning and the evening star. It shines upon the babe, and sheds its radiance on the quiet tomb. It is the mother of art ; inspirer of poet, patriot and philosopher. It is the air and light of every heart ; builder of every home ; kindler of every fire on every hearth : it was the first to dream of immortality. It fills the world with melody, for music is the voice of love. Love is the magician, the enchanter that changes worthless things to joy and makes right royal kings and queens from common clay. It is the perfume of that wondrous flower,

the heart, and without that sacred passion, that divine swoon, we are less than beasts ; with it, earth is heaven and we are gods."

Had he chosen, he might have reached almost any height of political preferment. It was not necessary that he publicly disavow his views on religion ; had he but kept still ; had he simply followed his profession of the law, any office within the gift of the people could have been his. But he would not dissemble and he could not lie, so he remained until the hour of his death, absolutely true to himself, a grandly free and independent man, "neither slave nor master."

He was in the highest sense a patriot. Whenever his great intellect and the marvellous eloquence of his words could benefit and help the cause of liberty, both were quickly and cheerfully given. One of his most celebrated flights of oratory is known far and wide as the "Vision of War." It was part of an oration delivered before the veteran soldiers at Indianapolis in 1876, and so beautiful and tender is it, that the United States Government has had it reproduced in heroic size at Arlington Cemetery, Washington. It reads :

"The past rises before me like a dream. Again we are in the great struggle for national life. We hear the sounds of preparation—the music of boisterous drums—the silver voices of heroic bugles. We see thousands of assemblages, and hear the appeals of orators. We see the pale cheeks of women, and the flushed faces of men ; and in those assemblages we see all the dead whose dust we have covered with flowers. We lose sight of them no more. We are with them when they enlist in the great army of freedom. We see them part with those they love. Some are walking for the last time in quiet, woody places with the maidens they adore. We hear the whisperings and the sweet vows of eternal love as they lingeringly part forever. Others are bending over cradles, kissing babes that are asleep. Some are receiving the blessings of old men. Some are parting with mothers who hold them and press them to their hearts, again and again, and say nothing. Kisses and tears, tears and kisses—divine mingling of agony and love ! And some are talking with wives, and endeavoring with brave words, spoken in the old tones, to drive from their hearts the awful fear. We see them part. We see the wife standing in the door with the babe in her arms—standing in the sunlight sobbing. At the turn of the road a hand waves—she answers by holding high in her loving arms the child. He is gone, and forever.

"We see them all as they march proudly away under the flaunting flags, keeping time to the grand, wild music of war, marching down the streets of the great cities—through the towns and across the prairies—down to the fields of glory—to do and to die for the eternal right.

"We go with them, one and all. We are by their side on all the gory fields—in all the hospitals of pain—on all the weary marches. We stand guard with them in the wild storm and under the quiet stars. We are with them in ravines running with blood—in the furrows of old fields. We are with them between contending hosts, unable to move, wild with thirst, the life ebbing slowly away among the withered leaves. We see them pierced by balls and torn with shells, in the trenches, by forts, and in the whirlwind of the charge, where men become iron, with nerves of steel.

"We are with them in the prisons of hatred and famine, but human speech can never tell what they endured.

"We are at home when the news comes that they are dead. We see the maiden

in the shadow of her first sorrow. We see the silvered head of the old man bowed with the last grief.

"The past rises before us, and we see four millions of human beings governed by the lash—we see them bound hand and foot—we hear the strokes of cruel whips—we see the hounds tracking women through tangled swamps. We see babes sold from the breasts of mothers. Cruelty unspeakable! Outrage infinite!

"Four million bodies in chains—four million souls in fetters. All the sacred relations of wife, mother, father and child trampled beneath the brutal feet of might. And all this was done under our own beautiful banner of the free.

"The past rises before us. We hear the roar and shriek of the bursting shell. The broken fetters fall. These heroes died. We look. Instead of slaves we see men and women and children. The wand of progress touches the auction-block, the slave pen, the whipping-post, and we see homes and firesides and school-houses and books, and where all was want and crime and cruelty and fear, we see the faces of the free.

"These heroes are dead. They died for liberty—they died for us. They are at rest. They sleep in the land they made free, under the flag they rendered stainless, under the solemn pines, the sad hemlocks, the tearful willows, and the embracing vines. They sleep beneath the shadows of the clouds, careless alike of sunshine or of storm, each in the windowless palace of Rest. Earth may run red with other wars—they are at peace. In the midst of battle, in the roar of conflict, they found the serenity of death. I have one sentiment for soldiers, living and dead; Cheers for the living, tears for the dead."

He has uttered more beautiful words, born of tender and sublime thoughts, than any man of his century; it is impossible to give any number of them in this short article, but his prose-poem "Life," which was conceived and written by him while travelling from New York to Washington, shortly after the birth of his first grand-child, Eva Ingersoll Brown, which was the inspiration of the writing, is as gentle as it is poetic, and is worthy of Shakespeare.

His brother, Eben Clark, died in 1879, and it was his death that drew from Robert Ingersoll that wonderful and exquisite eulogy, which so stirred and captivated Henry Ward Beecher, and which has been regarded as the greatest burst of tender eloquence in the English language.

Above all things, Robert Ingersoll was a believer in the holiness and sanctity of marriage, and detested with all his heart any doctrine that should tend to destroy the home and family.

He had the utmost consideration for the thoughts of others, whether in his judgment right or wrong, and was always ready to defend another's right to differ from him, and said: "Arguments cannot be answered with insults. Kindness is strength. Candor is the courage of the soul."

When you do not know, to admit it: that is honesty. To express your real thoughts, knowing that the scorn and hatred of the majority will be your lot: that is courage. To love humanity, to give to every human being every right that you claim for yourself; to put justice above all else: that is goodness. In the world of thought, to see always the purpling dawn; to walk alone; to bring from

fancy's painted realm new poems, new pictures, which ennoble and delight: that is genius. Robert Ingersoll had all these.

Everywhere honored and beloved for the purity of his life, his great heart, and his marvellous intellectual strength, he will ever remain one of the most magnificent figures of the nineteenth century.

Surrounded in life, more than any other man, with people who held him in loving and tender regard, his name will live as long as sympathy, love, and liberty are found in the human heart.

He died in the zenith of his fame, on July 21st, 1899, at "Walston," the charming residence of his son-in-law, Mr. Walston Brown, at Dobbs' Ferry, on the beautiful banks of the Hudson, surrounded by all that was nearest and dearest to him, "within the arms of her he worshipped and adored, feeling upon his pallid lips love's last and holiest kiss."—N.Y. *Truth*.

WHAT IS RELIGION ?

BY B. F. UNDERWOOD, QUINCY, ILL.

"Has religion a scientific basis?" is a question that was discussed a few years ago at a meeting of the Free Religious Association. To the wording of the question I objected, on the ground that religion is a fact of human life and history, as much as a star or a stone is a fact of the universe. One might as well ask whether language, or love and hatred, or social life, has a scientific basis. Religion is a fact in the world, and as such must be recognized by the man of science, as well as by the philosopher, the historian, and the sociologist.

When men say they do not believe in religion, they mean to say that they do not believe in certain theological creeds or theories put forward as religion. Those who in their narrowness and zeal have confounded the great fact of religion with speculative dogmas are responsible mainly for sweeping denials of religion by those who cannot believe the dogmas, and fail to distinguish between these transient forms and superficial expressions of the religious sentiment and the great fact of religion itself.

Religion is a proper subject for scientific study. It can be studied as it manifests itself to-day in the life of the race, among savages, with their undeveloped thought and low ideals, as well as among civilized and enlightened men, between whose religious ideas and those of men in a state of intellectual childhood there is not much in common.

Religion can be studied in the history of the Egyptians, Hebrews, Hindus and Mohammedans, in the history of the Greeks and Romans, in the history of Christian nations, in the traditions of savages.

Manifestations of the religious sentiment may be studied by the physician and by

the psychologist as well as by the ethical and social reformer. Those who confine their study of religion to the speculative part, to questions of origin and destiny, to theories in regard to the nature of God or the conditions of life beyond this bank and shoal of time, are not likely to have the broadest or most accurate knowledge of religion as a fact of human nature and as a factor in human progress.

If the doctrine of evolution is true, it applies to religion as well as to ethics, language, art, society, government, etc. It applies to the subjective element as well as to the objective element of religion. There must have been an atheism which preceded reflective thought. Not until men began to recognize Power underlying or manifesting itself in phenomena, and began to feel their dependence upon it, to wonder about it, to fear, admire, and reverence it, could there have been religious belief or emotion.

According to evolutionary thought, if I mistake not, a correct definition of religion, fundamentally considered, is the recognition of Power to which man is subject, and upon which he is dependent, with corresponding emotions. Religion is an expression of man's relation to the Ultimate of being, whether shown in fetishism, henotheism, polytheism, monotheism, or agnosticism.

How far the religious man is also a moral man—moral in thought and conduct—is determined by his moral development and education and environment. Religious emotion may be strong, and the moral disposition, or the will to overcome evil, or both, may be weak. This we should expect on *a priori* grounds; and history of religions and observation to-day prove it to be true.

The foregoing definition of religion is too general to satisfy one whose interest in religions is chiefly religious rather than philosophical. Religion has many aspects, and they all need to be considered in order to take a just and comprehensive view of the subject.

Coleridge defines religion as the union of the "subjective and the objective." The subject is the Me; the object is the Not Me.

"A likeness to God, according to our ability," is Plato's definition of religion.

Religion, according to Kant, is "reverence for the moral law as of divine command."

"The union of the finite and infinite," says Schelling.

"Faith in a moral government of the world" (Fichte).

"Morality becoming conscious of the free universality of its concrete essence" (Hegel). This is interpreted to mean "perfect mind becoming conscious of itself."

According to Schleiermacher, religion is "immediate self-consciousness of the absolute dependence of all the finite on the infinite."

Jeremy Taylor's definition of religion is "the whole duty of man, comprehending in it justice, charity, and sobriety."

"Every man worships a conception of his own mind" (R. W. Mackay).

"Religion is a state of sentiment toward God" (F. W. Newman).

"Religion is the culminating meridian of morals" (Dr. James Martineau).

"Religions are many; reason is one. We are all brothers." This phrase is on the

lips of every Chinese, and the Chinese bandy it from one to the other with the most exquisite urbanity." (Huc's "Journey through the Chinese Empire.")

"Religion without morality is superstition which deceives the unfortunate with a false hope, and makes them incapable of improvement" (Fichte).

"The Thugs, the religious sect of professional murderers in Hindostan, are very strict in observing the ceremonial rules of their faith. . . . No Thug was ever known to offer insult, either in act or speech, to the woman he was about to murder." (Sleeman.)

"Fashionable religion visits a man diplomatically three or four times,—when he is born, when he marries, when he falls sick, and when he dies,—and for the rest never interferes with him" (Emerson).

"A man is a Christian if he goes to church, pays his pew tax, bows to the parson, believes with his sect, and is as good as other people. That is our religion" (Theodore Parker).

"There is no pestilence in a State like a zeal for religion independent of morality."

"So pious as to be utterly intolerable" (H. W. Beecher).

"Let us with caution indulge the supposition that morality can be maintained without religion" (Washington).

"Atheism leaves a man to sense, to philosophy, to natural piety, to laws, to reputation, all of which may be guides to an outward moral virtue, though religion were not" (Bacon).

Shelley defines religion as "Man's perception of his relation to the principle of the universe."

"The true religious philosophy of an imperfect being is not a system or creed, but, as Socrates taught, an infinite search or approximation" (Mackay's "Progress of the Intellect").

"Pure religion and undefiled before God and the Father is this, To visit the fatherless and widows in their affliction, and to keep himself unspotted from the world" (James 1 : 27). This is, I believe, the only direct and precise definition of religion to be found in the Bible.

Is there any finer statement of the religious mood than that given by Wordsworth in "Tintern Abbey"?

"And I have felt
A presence that disturbs me with the joy
Of elevated thought ; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man,—
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things."

THE OLDEST POEM IN THE WORLD.

From the London Standard.

NEAR to the pyramid at Illahun, Professor Petrie found during his explorations in 1888-90 the extensive town occupied by the workmen employed by Usertesens II. in building his pyramid and other public works. In the office where the records of the town were kept Prof. Petrie discovered a large number of papyri. Most of these were official and legal documents relating to the works carried on, accounts of payments to workmen, of food and provisions received and issued, fiscal accounts, census papers, etc., and all the usual accumulation of a Government office—dry and uninteresting on the whole, but abounding in details which are of the greatest value to the historian and the archæologist. The more attractive fields of general and scientific literature were not, however, unrepresented, for we have works on medicine, diseases of women, veterinary surgery, and mathematics; but the gem of the collection is a royal ode or hymn of welcome addressed to Usertesens III., apparently by the people of the Fayoum. After long and patient work, these broken and torn fragments have been arranged, and are now published, with autotype reproductions, transcripts and partial translations by Mr. F. Llewellyn Griffith. The poem to Usertesens III. is written in a fine bold hieratic hand, upon a papyrus measuring 46 inches in length by 12 in width, and consisted, when complete, of six stanzas of ten lines each. Its value lies in its being certainly the oldest poem in the world, its date being nearly fifteen centuries before the time of Moses; and also in the wonderful way in which it describes, in the most figurative language, the great work that the king had done in the expansion of the Egyptian Empire.

- “HOMAGE to thee, our Horus divine of beings,
Protecting the land and widening its boundaries,
Enclosing the two lands within the compass of his hands, and seizing the nations in
his grasp.
The tongue of His Majesty bindeth Nubia, his utterances put to flight the Bedouin.
Sole one of youthful vigor, guarding his frontier,
Suffering not his subjects to faint, but causing all the people to repose till daylight.
As to his trained youth, in their slumbers, his heart (mind) is their protection.
His decrees have formed his boundaries; his word maketh strong the two regions.
- “Twice joyful are the gods: thou hast established their offerings.
Twice joyful are thy forefathers: thou hast increased their portions.
Twice joyful is Egypt in thy strong arm: thou hast protected the ancient *regime*.
Twice joyful are the people in thy policy: thy mighty spirit hath taken upon itself
their welfare.
Twice joyful are thy paid young troops: thou hast made them to prosper.
Twice joyful are thy veterans: thou hast made them to renew their youth.

"Twice great is the lord of his city: he is as it were a dike damming the stream in its water floods.

Twice great is the lord of his city: he is as it were a cool shelter, letting every man repose unto daylight.

Twice great is the lord of his city: he is as it were an asylum, delivering the frightened one from his enemy.

Twice great is the lord of his city: he is as it were a verdant shade and cool place in the time of harvest.

Twice great is the lord of his city: he is as it were a corner warm and dry in time of winter.

Twice great is the lord of his city: he is as it were a rock barring the blast in time of tempest."

The closing lines are—

"He hath come; he hath made the people of Egypt to live; he hath destroyed its afflictions.

He hath come; he hath made men and women to live, and hath opened the throat (voice?) of the captives.

He hath come; we nurture one; we bury our aged ones (in peace)."

THE AGE OF THE EARTH.

THE address which Sir Archibald Geikie delivered before the British Association for the Advancement of Science this year will be generally regarded as a helpful contribution to the discussion of a fascinating problem. The lapse of time since the earliest known forms of life were left in the earth's crust as fossils has been the subject of a more or less animated but courteous controversy for nearly forty years. And the opinion of Lord Kelvin that our globe has not been in a condition that would fit it for the abode of living creatures for more than twenty million years has been accepted by a large proportion of scientific men, though it has not gone undisputed. The value of Sir Archibald Geikie's paper on "Geologic Time" lies not so much in any specific figures that he furnishes—although he does entirely agree with Lord Kelvin—as in his recognition of the service rendered by others who have wrestled with the question, and his suggestions as to the possibility of obtaining better estimates in the future.

Before making clear his own ideas on this subject, Sir Archibald declares that Lord Kelvin (then Sir William Thompson) earned the gratitude of geologists by his attacks on them. They have been forced to abandon the vague and nebulous notions in which they once indulged regarding the extent of geologic time. With the frank indifference of Huxley to some of the elements of the problem Sir Archibald says he has no sympathy. Anything which affords a more distinct conception of the antiquity with which the geolo-

gist has to deal should be welcomed. And Lord Kelvin was the first man, speaking with authority, to pin other scientists down to anything like precision.

It is to be observed, however, that only one man whose voice is likely to command attention has made a more modest estimate than Lord Kelvin—Professor Tait, who puts the age of the earth at ten million years; whereas several others have insisted on a period of greater length. Professor George Darwin, the Cambridge expert in astronomy and mathematics, said thirteen years ago that he was inclined to follow Kelvin in limiting the existence of life on the earth to one hundred million years, but he did not express a preference for the minimum estimate of the same authority. Shortly after this utterance of Darwin's came a bolder one from Prof. John Perry, who occupies the chair of mechanics and mathematics in the Royal College of Science, at South Kensington. Lord Kelvin's calculations had been based upon the known rate at which various rocks radiate heat. He said that if the earth was once a molten globe, and if it had cooled off at the same rate as the specimens of rocks tested by modern experts, less than twenty million of years would have been required to bring the temperature at the surface down to the point it has now reached. But Professor Perry not only called in question the accuracy of the particular data employed, but emphasized the fact that Lord Kelvin had considered the matter from only one point of view, that of the physicist. Geology and paleontology also had something to say. Professor Perry was willing to allow them a hearing, and added that if those other two classes of students of Nature insisted on taking more time for the phenomena observed, he saw nothing in the field of physics to deny them all that they demanded up to one thousand million or even four thousand million years.

Sir Archibald Geikie, speaking for geology, takes up a position between that of Professor Darwin and that of Professor Perry. He deems Lord Kelvin's estimate inadequate, but expresses himself with marked moderation. "So far," he says, "as I have been able to form a conclusion, one hundred million years would suffice for that portion of the history which is registered in the stratified rocks of the crust. But if the paleontologists find such a period too narrow for their requirements, I can see no argument on the geological side why they should not be at liberty to enlarge it as far as they may find needful for the evolution of organized existence on the globe."

The most emphatic and practical utterances of Sir Archibald, however, are those which urge upon his fellow geologists more thorough and more carefully concerted observation, with a view to obtaining numerical data. The processes of denudation and deposition are, he thinks, taking place at substantially the same rate to-day as in past ages. If the phenomena were studied with special reference to the time required now, it might ultimately become practicable to compute with an approach to accuracy the period consumed by them in the past. So gigantic is the task, however, that international co-operation should be enlisted. This once secured, "we can place geological chronology on a broader and firmer basis of actual experiment and measurement than has yet been laid."—*New York Tribune*, Oct. 1, '99.

THE ORTHODOXY OF DR. BRIGGS.

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From the New York Sun.
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I.

WHERE DR. BRIGGS LEAVES THE BIBLE.

SINCE his ordination to the diaconate of the Episcopal Church, Dr. C. A. Briggs has published a new volume entitled "The Study of Holy Scripture." We speak of it as new, and he himself so describes it, though the nucleus of its material was drawn from his now famous book on the same subject published in 1883, but the work has been remodelled completely and doubled in size. It is an explanation and defence of the so-called "Higher Criticism," and the author contends that his methods and the results attained by them detract nothing from the rightful authority of the Scriptures, but rather tend to "a firmer faith and a holy joy in their exhibition of the grace and glory of our God and Savior." Let us see if this is so.

The volume contains nearly seven hundred pages, and we cannot pretend now to deal with it comprehensively or follow the lines of Dr. Briggs' argument, but it will be sufficient for our present purpose to refer merely to some of the conclusions at which he arrives.

For instance, he finds that many of the books of the Bible are "anonymous," even when the authorship is "fathered on a well-known Biblical character, on whose inspiration it was supposed we might have confidence." Others are "pseudonymous," and others—like the Pentateuch, for example—are compilations of "earlier narratives and law codes," in the "form of ancient poetry, legends, genealogies and other historical or traditional monuments." Dr. Briggs speaks of these as "ordinary features of the world's literature," and asks if there is "any sound reason why they should not all be found in Holy Scripture." Obviously not, if the Bible is merely "ordinary literature." He also finds the "legend and the myth" used extensively in the Bible, as they "are found in all other ancient history," though in the Bible they are monotheistic, while the classical myths are polytheistic. The intermarriage of the daughters of men with the angels he describes as such a myth, and he quotes a scholarly critic who speaks of the "adventures of Samson" as "a legend which is very old," and "has its roots in the earth, not in the sky."

Dr. Briggs finds many "works of the imagination" in the Bible, and instances as such the books of Ruth, Jonah, Esther, and Daniel. Ruth, for instance, "is a simple and graceful domestic story," a "charming idyll," and "the author invents the scenery for his actors;" that is, it is a work of fiction. The miracles reported in Jonah he describes as "marvels rather than miracles," "more like the wonders of the 'Arabian Nights' than the miracles of Moses," etc. The whale story has for him "an element of the extravagant and the grotesque." The reported repentance of Nineveh, too, is

made "incredible" by "the history of the times," for Nineveh, then the capital of the greatest empire of the world, "was least likely of all to repent." The use and apparent confirmation by Christ of this impossible story of Nineveh's repentance Dr. Briggs explains by saying that "there was no historical repentance so well suited to His purpose." The book of Daniel he describes as "written as historical fiction in 168-165 B.C., with the use of various earlier documents."

Dr. Briggs points out many instances in which "a Biblical writer has, owing to lack of sources and dependence on local traditions, been led to erroneous historical statements." His theory of "mythical elements" in the Bible compels him to acknowledge that it may be used logically against the Incarnation as a fact :

"The virgin birth of our Lord, and the story of the Incarnation as cited in the Gospel of the Infancy in Matthew and Luke, are more exposed to the mythical hypothesis than any others in the Gospels. It is represented that the virgin birth is unknown to the primitive Gospels of St. Mark and the Logia of St. Matthew ; or to the Epistles, even when they urge the doctrine of the Incarnation ; or to the Gospel of John ; that the sources used by our Matthew and Luke are poetic in form and in content, and of unknown origin ; that the description of the virgin birth as given by them conflicts with physical science and psychology ; and that their story resembles the myths of other ancient religions."

This perfectly logical and altogether inevitable application of his own theory of myths in the Bible Dr. Briggs is compelled to dispute in a metaphysical, but very casuistic and unconvincing way, which would apply equally to the myths he acknowledges as such. Of course, if the Incarnation is "a work of the imagination," the very pillar of the Christian faith is overthrown.

The "historical reliability of the 'story of the Deluge'" he disposes of by quoting from Ryle the conclusion that it is "an ancient legend describing a prehistoric event," for "there is no indication that since man appeared on the earth any universal and simultaneous inundation of so extraordinary a character as to overwhelm the highest mountain peaks has ever occurred ;" that "so vast an accumulation of water all over the terrestrial globe would be in itself a physical impossibility." The possibility of error in the story of the census of Quirinus, in Luke, is admitted in a quotation he gives from Plummer, with inferential approval. "The primitive sources of Biblical history" he describes as "mythologies, legends, poems, laws, and historical documents, and the use of the historical imagination." Dr. Briggs is "obliged to admit that there are many scientific errors in the Bible," and that "in all these respects there is no evidence that the authors of these sacred writings had any higher knowledge than that possessed by their contemporaries."

After reading these criticisms of the Bible,—a few among the many in Dr. Briggs' book, every reader can judge for himself where they leave the authority of Scripture. He does not need the casuistry of Dr. Briggs to lead him to a logical conclusion, nor can it prevent his going there. And what other conclusion can it be than that Dr. Briggs puts our theology on a level with the old mythologies, and makes of it a con-

struction of the human mind purely—legendary, mythical, imaginary? If this doctrine should be preached and accepted by the Christian Church, would there remain even a shadow of its professed supernatural authority?

However artfully Dr. Briggs may fight shy of the irresistible conclusion of his own criticisms, honest intelligence is bound to reach it. His proper place, manifestly, is outside of the Christian Church and among its assailants.

II.

IS THE BIBLE INSPIRED OR A MERE WORK OF THE IMAGINATION?

MR. BALFOUR, in his speech during the debate in the British Parliament growing out of the controversy between the sacerdotal and Protestant factions of the Church of England, made a notable remark in saying that really that dispute is over minor matters as compared with the "vast questions lying at the very root of all religion, which are being called in doubt from day to day."

Such a question is raised in this country by the ordination by Bishop Potter of the Rev. Dr. Briggs to the priesthood of the Episcopal Church. By the side of it the Ritualist controversy and all other religious differences are of small importance. As Mr. Balfour says, it goes to the very root of all religion, for it touches the authority on which all religion rests, and is of a concern as vital to the sacerdotalists as to the Protestants. Dr. Briggs essays to reconcile his criticism of the Bible as a work of imagination, mythical and legendary, with the old religious theory or dogma of its divine revelation or inspiration, but obviously the two are contradictory. Every intelligence sees at once that they are irreconcilable and that either the one or the other must be abandoned.

It is this doubt as to the authority of the Scriptures, provoked by Christian theologians of the school of Dr. Briggs, which constitutes the one great stumbling block of the Church at this time. If any occurrences recorded as supernatural in the Bible can be treated properly as merely fictitious stories, after the fashion of those of the "Arabian Nights," as Dr. Briggs treats the miracle of Jonah and the whale, for example, the whole body of miracles in the canonical Scriptures must go with them. If one is "incredible" because it conflicts with natural law and with probability, they must all be dismissed as fabulous for the same reason. Even the Incarnation itself, upon which is built the whole fabric of the Christian religion, becomes purely imaginary if that method of criticism is adopted.

All this is obvious; but the remarkable, the astounding circumstance is that the assault upon the authenticity and credibility of the miraculous foundation of the Church is made from within its own pale. The most radical and most dangerous attack upon religious faith in the history of Christianity or any other religion comes

from men appointed to be its special champions, and not from avowedly skeptical critics, infidels and deists like those with whom it had to contend in the past. Col. Ingersoll, for example, made a superficial, merely sensational assault on revealed religion, as compared with the totally subversive methods of attack pursued by these scholarly Biblical critics in the very schools of Christian theology itself. They are not merely assailing real or alleged mis-statements or mispractices in the Church, but are smashing to pieces the supernatural foundation on which alone the Church rests. They are making of Christianity a mere mythology, a structure of the human fancy, a purely poetical conception, a dream, of only such value and authority as belong to it as a human conception, like the philosophy of Plato, Aristotle, Kant, or Herbert Spencer.

Now, as Mr. Balfour says, all other questions in dispute in the religious world, whether of Christianity, of Buddhism, or Mohammedanism, are of superficial consequence only until this question of the supernatural authority of all religion is settled and removed from the field of controversy. That field, too, as we have said, is the Church itself. In the Episcopal Church the question is raised by one of its own ordained deacons; and by Dr. Briggs' ordination as a presbyter, his destructive criticism of the Bible, and consequently of the Church, is proclaimed incidentally as consistent with episcopal faith and doctrine. This proclamation will be all the more emphatic because previously the critic was suspended from the Presbyterian ministry until he should recant his teaching. That he has not done; he has rather repeated it and persisted in it since his ordination to the Episcopal diaconate.

The ordination of Dr. Briggs has raised a discussion vital to the very existence of the Church. It is a controversy which must go on throughout Christendom until it results in separating sharply and broadly those who believe in the supernatural authority of religion and those who would make of religion only a poetic conception of the human imagination; and it will be the most momentous inquiry which has ever occupied the mind of man.

CONFUCIUS AND HIS TEACHINGS.

BY MAJOR-GEN. J. G. R. FORLONG, F.R.S.E., F.R.A.S., ETC.

[Condensed from "Short Studies in the Science of Comparative Religions." By Major-General Forlong. London: Quaritch.]

I.

THE teachings of this great and wise ethical philosopher attained publicity early in the 5th century B.C. and gave rise to a new philosophical religion which still flourishes and governs minutely the lives, politically, socially and morally, of about one-fifth of the whole human race.

In the time of Kung-fu-tsze the Chinese Empire centred principally around this sage's cradle lands—the provinces between the Whai-Ho and Ho-angho; and China had then only a fifth to a sixth of its present imperial limits. It then consisted of some thirteen states or kingdoms under the Châu dynasty, which arose in 1122 and fell in 255 B.C. Its population in the days of Confucius has been variously estimated at from only ten to fifteen millions.

In 770 B.C. a northern horde plundered the capital Sigan, or Shen-si, and killed the king, whose son fled south of the Ho-angho and established his capital at Loh-yang, in Ho-nan, and for 450 years (to 220) the Chaus were only Emperors in name; many of the feudal princes and dukes were much more powerful, and it was among them, amidst political and social disorder, that the life of Kung-fu-tsze lay. Feats of arms, great battles, heroic virtues, devoted friendships, these made the chronicles of China, says Prof. Legge, as attractive as those of Europe in and after our 14th century; and in these 5th, 6th, and 7th centuries B.C. there was more literary culture in China, and more developments of all the arts of civilization than there was in Europe in our 14th century.

In spite of the preceding Greek and Roman civilizations and some 1300 years of Christian teaching, Europe was then 2,000 years behind the China of Confucius. Not only had every royal, but every feudal court in China its historiographers, poets, musicians, sages, and varied institutions of an educational character, codes of law, and books of ceremonies, yet there was an "absence of any strong and definite religious beliefs" (Prof. Legge, "Ency. Brit."), which doubtless accounts for the great advances an unfettered people can make under these circumstances, and *per contra*, the then strangled state of creed-torn Europe during all those "Dark Ages" when priests held alike the minds and the bodies of the masses under subjection.

The reader must bear in mind the political, religious, and literary state of all Europe and Asia at this cyclic period—so marked in our "Chart of Rivers of Life"—else he cannot appraise aright the widely apart spheres of a Lâo-tsze, Kung-fu-tsze, Mahâ-Vira, Buddha, and Puthagoras. With the object of avoiding repetition and confusing matters which are not by any means the same though nearly synchronous, we have

laboriously compiled various Chronological Tables, and their study is necessary if we desire those historical facts which can alone guide us accurately along the complicated paths of man's mental life.

Kung-fu-tsze sprang from an ancient noble family of the K'ungs, his father, Shuh-liang-heih, being military governor of the Lu kingdom—now Shantung, and a distinguished officer when Kung-fu-tsze was born. He was 70 years of age, a widower with a cripple son, when he married again in 550 a daughter of the Yen clan, and Kung-fu-tsze was born the following year, in the district of Tsou, and after him two daughters. The father died in his 73rd year, and the mother—a clever and good woman—devoted all her energies to the bringing up of her son. Though struggling with poverty she had great family influence, and watchfully cherished and advanced her boy's early developed love of learning.

His grave demeanor and strange fondness for the study of history and ancient laws and customs attracted attention and led to his early employment in what we call the "Civil Service." He was appointed the assistant magistrate and collector of revenue in an agricultural district, where his wise and energetic reforms soon attracted royal notice and favor.

At 19 he married, and at 22 his historical studies had so convinced him that the only remedy for the distracted state of his country was the removal of ignorance, that he devoted a great deal of his time to teachings and readings; but when at 24 his beloved mother died, he retired from all public duties and offices and mourned her for three years, according to the ancient but then neglected custom. He revived this, and it has ever since been the objectionable practice of his countrymen.

It was about this time that he obtained the additional name of *Fu-tsze* or philosopher, and he was then a very sad one; indeed his mother's death continued to him an almost life-long grief. At the end of the orthodox three years' mourning he went by special invitation to the court of the Duke of Lu, where he applied himself to study and teaching until the age of 34, when he accepted the post of Prime Minister, having then around him a devoted body of disciples and learners, among whom was the Duke, who, however, died next year (527), commending his son to continue under Kung-fu-tsze's instructions, but after a time the new Duke sent him to his friend Duke Ch'ao to study at his court of La-yang certain ancient rites, and to return and introduce them in Lu. This he did, and very shortly after "left again dutifully," it is said, to assist his new master Duke Ch'ao, who had to fly for his life to the adjoining state of Tsi. After a time Kung-fu-tsze returned to Lu, then and in his absence distracted by civil war, but he refused all offices and maintained himself as a student and teacher for fifteen years, thus gaining great influence throughout China.

In 500 B.C., when fifty years old, he accepted the magistracy of the city of Chung-tu under King Ting of Lu—Duke Ch'ao's brother. Here he rose to be Premier, and his wisdom and firmness brought peace and many reforms, social and economical. As the head of the Criminal Department (Home Secretary) his judicious administration

and enforcement of impartial justice to rich and poor, noble or peasant, made him many powerful enemies, and too popular to please an indifferent ruler and venal courtiers; but sensible of the good work he was accomplishing, and anxious to show to his own and other states that it might even be possible to do away with crime and prisons, he heeded not the hints to depart which reached him from high places.

He not only fearlessly repressed the iniquities and oppressions of many great barons, but dismantled their fortified castles and so let light into some very dark places and cruel tyrannies. "During his rule here," says Prof. Legge, "dishonesty and dissoluteness hid their heads; loyalty and good faith became the characteristics of the men, and chastity and docility those of the women. He was the idol of the people and his praise flew in songs through their mouths." But the times and weakness of the ruling marquis were against him, and finding his counsel unavailing, he went forth in his 56th year to a weary period of wandering among various states." In 483 B.C., his 69th year, he returned to Lu, but refused to again take office, devoting himself to the completion of his literary tasks, and to teaching disciples as well as all who would listen to his discourses.

His wife, from whom he had long lived apart without any known cause, had died shortly before he took up his last abode at Lu, and in his 70th year—481—he lost his only son Khung Li and favorite disciple Yen Hwui, a cause of intense grief, which made him exclaim somewhat like Christ that heaven seemed forsaking him. Again in 478 he lost another beloved disciple and companion, Tsi-Lu, when he retired for a time from all public life, and solaced himself with his lute and the composition of mournful accompaniments, saying to his comforters: "Mountains must wear away and the strongest beams yield to time; and so with the wisest of us; as trees and herbage wither away, so my time is near," etc.

II.

KUNG-FU-TSZE was confessedly a great and good man—an intellectual giant even amongst the many who were prominent about 500 B.C. alike in Europe as in Asia. In China he formed the apex of a great pyramid of religious, social and moral thought which became to untold millions a religion, which has lasted some twenty-four centuries, and shows no signs of abatement. Yet he refused to localize or recognize any heavens, hells or purgatories, confessing that where he had no evidence he must decline to assert or teach. He passed away, "an immortal into space, leaving only," says Prof. Legge, "his works and words to follow him and his fellows to judge him. Happiness and goodness were the object of his sage teaching, and he calmly breathed his last surrounded by numerous loving and admiring disciples. Deep down in his heart," says this old missionary and historian, "was the thought that he had well served his generation. But he said nought; uttered no prayer and betrayed no apprehension."

He was buried with vast pomp, and multitudes reared dwellings beside his grave and mourned him for three years as "the great Father." His tomb at Kiu-fou, in

Shantung, in the province of Kung, became "a nation's sepulchre;" and surrounded by befitting temples, halls and great courts, it is still the favorite resort of hundreds of thousands of pilgrims who almost worship him as semi-divine.

"The news of his death passed through the empire as with electric thrill." He became a nation's idol, and "the tide which then began to flow has hardly ever ebbed during twenty-three centuries." His grave is a large and lofty mound situated in a walled triangle, admission to which is given through a magnificent gateway and avenue of cypresses, leading up to a marble statue erected by emperors of the Sung dynasty and bearing the superscription:

"THE MOST SAGELY ANCIENT TEACHER—THE ALL ACCOMPLISHED AND ALL INFORMED KING."

Right and left are small mounds to his son and grandson Tzi-szi, the author of the remarkable treatise, "Doctrine of the Mean." All around are imperial tablets placed during different dynasties inscribed with glowing tributes "to the one man China delights to honor"; but one who, during long weary years when between 60 and his death at 73 years of age, had few friends and knew not where to lay his head in peace.

When driven out of office in 496 by ungrateful rulers, too venal to appreciate a thoroughly just and paternal government, he bravely went forth content with the humble rôle of a peripatetic teacher of goodness and moral virtues; and though, during these thirteen weary years, often in poverty and in danger of his life, yet he never shirked what he considered his duty, but amid all vicissitudes faithfully strove by example and precept to set forth the highest views and teachings. When cautioned against those who hated him, as head of the criminal department, for punishments justly meted out on themselves or relatives, he merely answered: "Trust in heaven," or *Ti-en*, his expression for nature and the invariable laws of matter, for he ever avoids speaking of a great ruling creator. These laws or the organization of nature would not, he added, "allow the cause of truth to perish; and our virtues must not only consist of knowledge and humanity, but of valor."

The city of Shantung is still the sacred home of the K'ung family, and there to-day live 400,000 to 500,000 claiming to be descendants of the revered sage. The ducal ruler in 1870 was said to be of the 75th generation; he has large estates with the hereditary right and title of a duke, confirmed by a long succession of dynasties and emperors.

As others chant hymns, doxologies and like laudatory sentiments to their Buddha, Christ, Krishna and Mahamad, so the Chinese are taught from childhood to repeat the praises and titles of Kung-fu-tsze, as "The example of all ages;" "The perfect one;" "Of all that are born of men, the unrivalled;" "The Sienshi," or teacher *par excellence*, "The Prince of Wang," etc., etc.

Kung-fu-tsze was much given to meditative introspection. Thus when about 30 he describes his intellectual growth as "one who had loved knowledge and learning from

15 years of age without undergoing any change in his convictions on all the subjects to the study of which he had previously bent his mind"; and when an aged man he follows up this argument thus: "The ideas which I could stand upon at 30, became convictions at 40, with wider views of heaven's decrees at 50, an ear open to hear all views or *quasi* 'truths' at 60; and between this and 70, an ability to follow out all that approved itself to me without any fears of transgressions." Such was the soliloquy of this pious septuagenarian at whose feet for some 2,300 years have sat about one-fifth of our race, diligently striving to know and embrace his teachings, and in eager competition to master his nine great classics, without which no offices of the empire are open to them.

Kung-fu-tsze prided himself on being "one born to the possession of knowledge, a transmitter not a maker, but one believing in and loving the ancients and antiquity." This indeed was his weak point, and one which cramped and even warped his great mind. Though a reformer, he was so humble and conservative, that instead of pressing forward and leading, he was ever harking back to antiquity and seeking for rules of conduct and new learning in the old hymns, sayings and doings of the ancients. In thus choosing the good in "the mighty past," and as a rule ignoring the bad, he was virtually giving to his countrymen as high and as eclectic a religion as they were able to assimilate. He went so far as to say, when one day urged to denounce the sacrifice of a lamb: "You love the lamb, I the ceremony," although he disbelieved in the efficacy of sacrifices as offerings to gods, whose very existence he perhaps doubted.

Though freely offered to all who asked and seemed likely to accept it, Kung-fu-tsze's advice was given in a lowly and undogmatic manner. "As we read his biography," said Max Muller in his "Chips," (1, xiii.), "we can hardly understand how a man whose life was devoted to such tranquil pursuits and whose death scarcely produced a ripple on the smooth, silent surface of the Eastern world, could have left the impress of his mind on millions and millions of human beings; an impress which even now, after 2,400 years, is so clearly discernible (nay so *dominant*) in the national character of the largest empire of the world." His life and work is a proof that to permanently and successfully move a people we must study their idiosyncrasies, and move along with the current of their thoughts and feelings, and so guide the stream gently into such new channels as are capable of containing it. This was the secret of Confucius, who was a true Chinaman, loving the plain and practical, and here therefore totally different to Lāo-tsze, whose spiritual mysticism was an evident outcome of the teachings of the last two great Jaina Saints, Parsvā-nāth of 900, and Mahā-Vira of 550. Throughout the 7th century B.C. we have shown that their religion pervaded Central Asia from the mouth of the Oxus to the Hoang-ho, and had then its philosophic centre at Kapila-Vastu within the principality of Gotama Buddha's father.

Lāo-tsze and Khung-fu-tsze belonged to the same state, Shang-tung, and lived in the broad central plains of the Hoang-ho. Their celebrated historical meeting occurred in 517 B.C., though they had probably met before. Lāo was then a very aged, revered,

and influential sage ; whilst Confucius, in the prime of life, was a well-known statesman, student, and progressive thinker, with a considerable following. As a practical man of the world and agnostic philosopher, he was not favorably impressed with the unpractical mysticism and lonely life of the aged transcendentalist : but he listened with all the respect due to Lāo's years and position, regarding his fanciful unseen world of gods and other spirits, his doctrines of souls, immortality, transmigration, etc.

It is said that for three days Confucius refused to give any opinion upon the good old sage's eloquently stated views ; and at last explained that he "had simply listened with helpless gaze and open-mouthed wonder ; amazed that so learned and experienced an old man should thus base the hopes of the race and the conduct of mankind on phantoms and mere speculative ideas."

There was no common ground on which the two able men could argue, not to say agree, as to the establishment of a religious system. The elder required, as General Alexander says ("Confu." p. 100), the acceptance of a spiritual creed of which he, Lāo, was the institutor—a belief in souls and divine inspiration, of which Confucius sorrowfully said : "I have been a seeker for nearly thirty years, but have not yet found." He full well knew that the ancients and all around him used the term "gods" for powers unseen, unknown, unsubstantial and incomprehensible, but he considered wise teachers of the people should not theorize concerning such hazy unknowables. Enough for them, said Confucius, that men be taught to follow in the footsteps of the great models of human perfection in life and teaching which have come to us from antiquity ; that we observe the simple principle of morality—*The Five Cardinal Virtues* : HUMANITY, JUSTICE, CONFORMITY (to established rites and customs), RECTITUDE (or righteousness), and SINCERITY, that is, a *veracity* which shuns duplicity or mental reservations in words or actions.

(To be continued.)

THE DIFFERENCE BETWEEN DEAD AND LIVING MATTER.

BY THE LATE THOMAS H. HUXLEY.

I THINK a few preliminary considerations will place before you in a clear light the vast difference which exists between the living bodies with which Physiological science is concerned, and the remainder of the universe :—between the phenomena of Number and Space, of Physical and of Chemical force, on the one hand, and those of Life on the other.

The mathematician, the physicist, and the chemist contemplate things in a condition of rest ; they look upon a state of equilibrium as that to which all bodies normally tend.

The mathematician does not suppose that a quantity will alter, or that a given point in space will change its direction with regard to another point, spontaneously. And it is the same with the physicist. When Newton saw the

apple fall, he concluded at once that the act of falling was not the result of any power inherent in the apple, but that it was the result of the action of something else upon the apple. In a similar manner all physical force is regarded as the disturbance of an equilibrium to which things tended before its exertion,—to which they will tend again after its cessation.

The chemist equally regards chemical change in a body as the effect of the action of something external to the body changed. A chemical compound would persist forever if no alteration took place in the surrounding conditions.

But to the student of Life the aspect of Nature is reversed. Here, incessant and, so far as we know, spontaneous change is the rule, rest, the exception—the anomaly to be accounted for. Living things have no inertia, and tend to the equilibrium.

Permit me, however, to give more force and clearness to these somewhat abstract considerations, by an illustration or two.

Imagine a vessel full of water, at the ordinary temperature, in an atmosphere saturated with vapor. The *quantity* and the *figure* of that water will not change, so far as we know, for ever.

Suppose a lump of gold be thrown into the vessel—motion and disturbance of figure exactly proportional to the momentum of the gold will take place. But after a time the effects of this disturbance will subside—equilibrium will be restored, and the water will return to its passive state.

Expose the water to cold—it will solidify—and in so doing its particles will arrange themselves in definite crystalline shapes. But once formed, these crystals change no further.

Again, substitute for the lump of gold some substance capable of entering into chemical relations with the water :—say a mass of that substance which is called “protein” — the substance of flesh :—a very considerable disturbance of equilibrium will take place—all sorts of chemical compositions and decompositions will occur ; but in the end, as before, the result will be the resumption of a condition of rest.

Instead of such a mass of *dead* protein, however, take a particle of *living* protein—one of those minute microscopic living things which throng our pools and are known as Infusoria—such a creature for instance, as an Euglena, and place it in our vessel of water. It is a round mass provided with a long filament, and except in this peculiarity of shape, presents no appreciable physical or chemical difference whereby it might be distinguished from the particle of dead protein.

But the difference in the phenomenon to which it will give rise is immense. In the first place it will develop a vast quantity of physical force—cleaving the water in all directions with considerable rapidity by means of the vibrations of the long filament or cilium.

Nor is the amount of chemical energy which the little creature possesses less striking. It is a perfect laboratory in itself, and it will act and re-act upon the water and the matters contained therein ; converting them into new compounds resembling its own substance, and at the same time giving up portions of its own substance which have become effete.

Furthermore, the Euglena will increase in size ; but this increase is by no means unlimited as the increase of a crystal might be. After it has grown to a certain extent it divides, and each portion assumes the form of the original, and proceeds to repeat the process of growth and division.

Nor is this all. For after a series of such divisions and sub-divisions, these minute points assume a totally new form, lose their long tails—round themselves, and secrete a sort of envelope or box, in which they remain shut up for a time, eventually to resume, directly or indirectly, their primitive mode of existence.

Now, so far as we know, there is no natural limit to the existence of the Euglena, or of any other living germ. A living species once launched into existence tends to live for ever.

Consider how widely different this living particle is from the dead atoms with which the physicist and chemist have to do !

The particle of gold falls to the bottom and rests—the particle of dead protein decomposes and disappears—it also rests : but the *living* protein mass neither tends to exhaustion of its forces nor any permanency of form, but it is essentially distinguished as a disturber of equilibrium so far as force is concerned,—and as undergoing considerable metamorphosis and change in point of form.

Tendency to equilibrium of force and to permanency of form, then, are the characters of that protein of the universe which does not live—the domain of the chemist and physicist.

Tendency to disturb existing equilibrium—to take on forms which succeed one another in definite cycles—is the character of the living world.

What is the cause of this wonderful difference between the dead particle and the living particle of matter appearing in other respects identical ? that difference to which we give the name of *Life* ? I, for one, cannot tell you. It may be that by and by, philosophers will discover some higher laws of which the facts of life are particular cases—very possibly they will find out some bond between physico-chemical phenomena on the one hand, and vital phenomena on the other. At present, however, we assuredly know of none ; and I think we exercise a wise humility in confessing that for us, at least, this successive assumption of different states (external conditions remaining the same)—this *spontaneity of action*—if I may use a term which implies more than I would be answerable for—which constitutes so vast and plain a practical distinction between living bodies and those which do not live, is an ultimate fact ; indicating as such, the existence of a broad line of demarcation between the subject-matter of Biological and that of all other science.

For I would have it understood that this simple Euglena is the type of all living things, so far as the distinction between these and inert matter is concerned. That cycle of changes which is constituted by not more than two or three steps in the Euglena, is as clearly manifested in the multitudinous stages through which the germ of an oak or of a man passes. Whatever forms the Living Being may take on, whether simple or complex, *production, growth, reproduction*, are the phenomena which distinguish it from that which does not live.