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Devoted to the Science of Religion, the Religion of Science, and the Extension of the Religious Parliament Idea

Founded by EDWARD C. HEGELER

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CONTENTS

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ABRAHAM LINCOLN

(From Nicolay and Hays' *Life of Lincoln, Vol. 1.*)

Frontispiece to the Open Court.

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THEOLOGIES OLD AND NEW

BY EDMUND NOBLE.

THE simplest view of purposiveness, relieved of every complication and suited to the average mind of all ages, is that offered in the Book of Genesis, according to which God, by an act of creative will, called light into being, fashioned the earth and stars, gave rise on this planet to all manner of living creatures, and finally made man "in our image, after our likeness." Here was a conception which assumed omnipotence without assuring omnipresence; vaguely or clearly, moreover, it involved either the thought of creation out of nothing, or that of independent existence in the things "created." But as men grew away from anthropomorphism the Almighty came to be regarded as coextensive with the universe, now as identical with things, or again as pervading them with the attributes of life, mind and soul. Philosophical forms of pantheism have been in evidence from the earliest times. The process by which man projects consciousness into the universe is seen already in Plato's "absolute idea," identified by him with God, and in his "world of ideas," of which he regarded the world of sense as no more than a copy. From the thought of the Stoics, who held that the universe is "a living being of which God is the soul, the governing intelligence, the sovereign law and the animating principle," it is not a far cry to Bruno's assertion of a "universal intelligence" or "indwelling reason" in nature. Hegel (*The Philosophy of History*, Introduction) calls reason "the substance of the universe" and "its infinite energy," further describing it as "the infinite complex of things, their entire essence and truth"; and Fechner's *Ueber die Seelenfrage*, devoted to the thesis that plants, the earth and the stars have souls, culminates in the statement (p. 223): "God is the All, or the soul of the All, according as one wishes to understand it." Typical of many modern conceptions of divine immanence is Isaac Newton's belief ("Optics")

that the various portions of the world, organic and inorganic, "can be the effect of nothing else than the wisdom and skill of a powerful, ever-living Agent who, being in all places, is more able by his own will to move the bodies within his boundless uniform sensorium, and thereby to form and re-form the parts of the universe, than we are by our own will to move the parts of our own bodies." Nearly two centuries later Theodore Parker refashioned this definition in the words: "God, then, is universally present in the world of matter. He is the substantiality of matter . . . he fills all nature with his overflowing currents; without him it were not. His presence gives it existence; his will its law and force; his wisdom its order; his goodness its beauty." Josiah Royce sought to show "the whole universe, including the physical universe also, as essentially a living thing, a mind, one Great Spirit." And Lyman Abbott wrote in *The Theology of an Evolutionist*: "I believe that the theology of the future will affirm that this Infinite and Eternal Energy is itself intelligent and beneficent—an infinitely wise and holy Spirit dwelling within the universe and shaping it from within, much as the human spirit dwells within the human body and forms and controls it from within."

Between the earliest conceptions of a Deity external to the world and the new teachings of Divine immanence human thought has furnished teleologies of such protean forms as to make classication of them well nigh impossible. Some of them take Deity for granted; others posit a "world soul"; all seek to interpret the appearances of "design in nature." The Greek hylozoists were convinced that matter has an original life principle which shows itself in both inorganic and organic; by Anaxagoras the purposiveness revealed in things is referred to an ordering spirit or *nous;* Empedocles was content to trace the movements of things to love as uniter and to hate as divider. When the idea of the *nous* as cause and orderer was presented to Socrates he commented: "If this be so, then the mind of the orderer will dispose of all things and place each individual thing in such a way as shall be for the best." Plato pictured a world of ends in which the "divine Architect successively realizes his purpose through the plastic action of the Idea, the absolute good, against the obstructive opposition of matter." The conception of a divine *nous* reappears in Aristotle, who attributed life to a creative purpose," and in his doctrine of the "entelechy" asserted that organisms differ from inorganic bodies in that they are impelled by an internal principle, a *psyche,* which employs a number of organs to realize its purpose." To both organic and inorganic Hegel applied the formula of a "plas-

tic instinct," an unconscious purposive activity (*bewusstlose Zweckthätigkeit*), which "acts without consciousness with a view to an end"; Hartmann held that matter consists of an inseparable unity of will and idea, and that atoms must be conceived of as wills or efforts, as having "an unconscious idea" of their destiny in order to be able to realize it. It was the belief of Kant that mechanism fully explains the inorganic world, but he recognized the need of a teleological view for anatomy, physiology and biology. "It is impossible," he wrote, "to find in nature grounds for an explanation of nature, and we are compelled by the constitution of our intellectual faculty to seek for the supreme ground of teleological connection in an original intelligence as cause of the world."

Modern assertions of an intelligent purpose at work in the universe shade off into assertions of purposiveness in the organism, but in neither application is there any real attempt to meet the problem with a solution. The so-called definitions of life have descriptive, but no explanatory value. How are vital processes elucidated by Bichat's "sum total of the forces that resist death," by Bèclard's "organization in action," De Blainville's "two-fold movement of composition, at once general and continuous," or by G. H. Lewes's "series of definite and successive changes, both of structure and composition, which take place within an individual without destroying its identity?" Nor is explanation furthered by reversion to such vague conceptions as the *"physis"* of Hippocrates, the *"archæus maximus" of* Paracelsus, the *"Bildungstrieb"* or *"nisus-formativus"* of Blumenbach, Johann Muller's "organic force," Cudworth's "plastic nature," Hegel's *"Trieb der Perfectibilität,"* Nägeli's *"Vervollkommnungsprinzip"* or "tendency to progressive development," Bischoff's "peculiar and individual cause or force which creates and shapes the whole body," the "genetic energy" of Williams, Henslow's "property of self-adaptation," or Moore's "bathmic energy." Just as unavailing is Lester F. Ward's effort to explain vital characters from the advance in complexity which matter makes by becoming organic. "From the molecule of hydrogen to that of albumen," he wrote (*The Status of the Mind Problem*), "the process of evolution has been uniformly the same, viz., that of compounding and recompounding, of doubly and multiply compounding; in short, it has been the process of molecular aggregation. With still higher states of aggregation, therefore, we should naturally expect still higher forms of activity, still more marked properties." And he is more explicit still, adding: "The general truth is that chemical union results in a new

substance with new properties, differing from and of a higher order than those of any which have united to produce it. When the highest known chemical compounds still further combine we ought therefore to look for something remarkable. Where the largest molecules whose constitution can be determined in a laboratory form themselves into higher molecular systems we should not be surprised if the resultant substance should be an extremely strange and important one. The activities of all substances up to this point are molecular, but it might well be that the new compound should possess molar activities." This is plainly an arithmetical or multiplication-table theory of vital phenomena. It means that you have only to go on compounding and recompounding inorganic units to see life finally emerge. It implies also the wonderful things which might happen were the complexity to be still further increased.

F. A. Lange, in his *"Geschichte des Materialismus"* (p. 581) writes of "the mystical domination of the part by the whole," with the remark that "little can be done with that." The vitalists have tried to do much with it, and vitalism has had a long history, with distinctions only loosely maintained between the notion of a psychical principle in the organism and that of a "vital force" totally unlike force in the inorganic. It was the "vital" kind of force which Claude Bernard called "creative": *"Ce qui est essentiellement du domaine de la vie, et ce qui n'appartient ni à la physique, ni à la chimie, ni à rien autre chose, c'est l'idée directrice de cette évolution vitale."* Schopenhauer, who projected "will" into nature, tells us in his *"Parerga und Paralipomena"* that the denial of vital force is absurd: "It is not disputed that physical and chemical forces are at work in the organism, but that which holds them together and guides them, so that the organism comes into being and subsists, that is vital force." For Lionel Beale (*Protoplasm*) life is "a peculiar force temporarily associated with matter," a "power capable of directing and controlling both matter and force," "an undiscovered form of force having no connection with primary energy or motion," "some directing agency of a kind peculiar to the living world." By Hans Driesch (*The History and Theory of Vitalism*) a return is made to the "entelechy," described as "an agent *sui generis,* non-material and non-spatial, but acting "into space, so to speak," also as a "psychoid" or kind of potentiality or power not present in inorganic bodies. But the inconsistencies and contradictions of vitalism find their completest representation in Henri Bergson (*Creative Evolution*), who reads psychism into nature with a *naiveté* almost passing belief. For him

there are two forms of existence—matter and consciousness, with their origin traced to some common source: matter, defined as a "reversal" of consciousness, a thing that continually unmakes itself and wears out"; consciousness described as "action that continually creates and multiplies." It is asserted that there is a "universal life" with which "consciousness must be coextensive," and that life appears by the action of consciousness upon "inert matter." life being defined as consciousness launched into matter"; for whatever vital characters show themselves "it is as if a broad current of consciousness had penetrated matter" and "carried matter along to organization." Life is "like a current passing from germ to germ through the medium of a developed organism"; there is "an original impetus, an internal push, that has carried life, by more and more complex forms, to higher and higher destinies." More specifically, we are assured that "at a certain point of space a visible current has taken rise; this current of life, traversing the bodies it has organized one after another, has become divided amongst species and distributed amongst individuals without losing anything of its force, rather intensifying in proportion to its advance." Bergson rejects what he calls "both radical mechanism and radical finalism," asserting that his philosophy, "like radical finalism, though in a vaguer form," represents the organized world as a harmonious whole. But beyond these highly generalized statements, which assume without elucidation of them the very modes of action to be explained, he makes no approach to a teleology that can be reconciled with the deliverances of science, with modern nature knowledge, or with the requirements of that common sense which, confronted with any machine-like apparatus realizing ends, insists on knowing "how it works." How it can be true that "there are no things, there are only actions," and at the same time true that there is an "inert matter" to be invaded and carried on to organization is not revealed by the theory? The asserted grip of consciousness of matter, each of them treated as unlike the other by a total difference of kind, is a manifest confusion of psychic with dynamic values. Nor does the notion of a "vital impetus" as the cause of life advance the explanation of purposiveness in the organism by a single stage: to attribute vital phenomena to an *élan vital* is like saying that the organism is alive because it has been vitalized. And the interpretation of reality as "unceasing life, action, freedom," as "a ceaseless upspringing of something new," is a manifest denial of the determinisms and repetitions which are essential to the order

we behold in the cosmos, and from which the only freedom possible to us as human beings can flow.

There is approach to a dynamico-chemical explanation of evolution in Herbert Spencer's system of thought, but no suggestion of a specific purposiveness in nature finally attaining to more complete manifestation in life: it is as if the author of *First Principles* were so sure of the utter lack of anything like a teleology in things that—except for a vigorous repudiation of vitalistic hypotheses—he did not even see the necessity of denying its existence. His doctrine of a general world drift towards "equilibration" recalls Fechner's "tendency to stability," yet by neither author is the conception worked out to its "purposive" implications. For Spencer all forms and configurations that arise in the material universe are due to the persistence of force, to the transformation of the relatively homogeneous into the relatively heterogeneous, to the "multiplication of effects" and to processes of integration and segregation culminating in equilibrium. He describes living aggregates as being "distinguished by the connected facts that during integration they undergo very remarkable secondary changes which other aggregates do not undergo to any considerable extent, and that they contain (bulks being supposed equal) immensely greater quantities of motion locked up in various ways." It is further stated that "all vital actions, considered not separately, but in their *ensemble,* have for their final purpose the balancing of certain outer processes by certain inner processes. There are unceasing external forces tending to bring the matter of which organic bodies consist into that state of stable equilibrium displayed by inorganic bodies; there are internal forces by which this tendency is constantly antagonized; and the perpetual changes which constitute life may be regarded as incidental to the maintenance of the antagonism."

It is here implied in a round-about way that the organism is engaged in maintaining itself, but when life is to be explained, rather than merely described, Mr. Spencer contents himself with calling it 'the continuous adjustment of internal relations to external relations" thus placing his emphasis on a subordinate detail which has many analogues in inorganic processes, and which takes no account of the fact that the organism man, to say nothing of the lower animals, has been engaged from human beginnings in adjusting external relations to internal relations. How an organic aggregate which differs from one that is inorganic in having "immensely greater quantities of motion locked up in various ways" comes unconsciously to fashion its

own organs as man fashions his tools Mr. Spencer nowhere states. There is a further surrender of the need for explanation in the positing of "very complex molecules," forming an "extremely changeable substance" naturally "exposed to those innumerable modifications of conditions which the earth's surface afforded," and yielding under "the mutual influence of its metamorphic forms under favoring conditions . . . the still more sensitive, still more variously changeable portions of organic matter, which, in masses more minute than existing protozoa, displayed actions varying little by little into those called vital." For this view it is because of the molecular instability of organic matter, because its structure becomes more "heterogeneous," because under the stress of incident forces it obeys the law of the "multiplication of effects," not because the system is purposive from the beginning, that by means of successive integrations and differentiations the life functions arise and organs are developed. Empty of both causal and genetic meaning is the passage which defines " the structural complexity accompanying functional equilibration" as "one in which there are as many specialized parts as are capable separately and jointly of counteracting the separate and joint forces amid which the organism exists"; it ignores, moreover, the elementary fact that a large part of the activities of organisms is expended, not merely in counteracting, but also in utilizing external forces. And though Spencer came near an important purposive factor in his account of motion as following "the line of greatest traction, or the line of least resistance, or the resultant of the two," his application of the principle is made, not to the process by which organs are originally set up, but only to organic development in general especially to shapes taken and movements carried on after the organs have been formed.

One of the most recent efforts to explain the teleology of the organism is that of L. T. Hobhouse in *Development and Purpose*. Its author fully recognizes the "mutual determination of parts" which "must run through Reality as a whole," and is therefore led "to conceive of Reality either as being a system of parts which necessitate one another, or as being a collocation determined by such system." (P. 348). He is explicit also in defining the difference between inorganic and organic bodies, the one class made up of relatively independent units, the other of units dependent on the character of the system. But despite frequent reference to the requirements of the whole, we get no real recognition of the directing power of the total system from organic beginnings. An "unfinished window" is also

left in the account of heredity: "what must exist at the beginning is not the developed structure in miniature, but rather something that will seize on all that comes within its grip and throw it into place in such fashion that bit by bit the structure will grow." (P. 369). There is here no identification of the "something," and no explanation of the actual process of growth. And for the universe at large, as for the organism in particular, Mr. Hobhouse's "purpose" is plainly psychical, based on the consciousness implied in human design—not dynamical, founded in the nature of cosmic power. "The evolutionary process," he writes, "can best be understood as the effect of a purpose slowly working itself out under limiting conditions which it brings successively under control . . . This would mean, not that Reality is spiritual or the creation of an unconditional mind . . . but that there is a spiritual element integral to the structure and movement of Reality, and that evolution is the process by which this principle makes itself master of the residual conditions which at first dominate its life and thwart its efforts." And he yet more plainly allies himself with the psychomorphists, first by inferring "a power of the nature of mind operating under conditions towards the effectuation of a world-purpose," then by asserting explicitly that "there is a mind of which the world-purpose is the object," and that "such a mind must be a permanent and central factor in the process of Reality." But "how in detail its relation to Reality in general and the individual mind in particular is to be conceived is a question about which it is best frankly to confess ignorance."

The clearest trail in the direction of a reasonable cosmic teleology offered by those who do not undertake to formulate one is that recently indicated by Lawrence J. Henderson of Harvard University in his masterly account of *The Fitness of the Environment*. The aim of the book is to show that life could not arise or the organism be maintained without the suitable materials that occur and the favoring processes which go on in the general inorganic surroundings—that, in a word, as there is a fitness of the living body to the environment, so there is a complementary fitness of the environment to the organism. But this theory does not mean, as in some attempted utilizations of it, that the environment was so ordered in its powers and contents that living beings would necessarily come forth. If after water has been poured down the side of a rock and allowed to freeze as it goes the spear of ice could be raised and examined it would be found to represent all the sinuosities and protuberances of the stony surface into which it had fitted itself; but this would not mean that the rock had

been shaped so as to give rise to those particular conformations. A burning candle requires a fit environment, with oxygen in it, yet there is no need to conclude that the atmospheric conditions were designed with the production of flame in view. For the functioning of an umbrella there are required a human being, the earth and a whole set of meteorological factors; yet we are not bound to devise a teleological explanation of even that manifest environmental fitness. Otherwise, and in all such cases, we should have to make the false assumption that the results observed are inevitable, and that the causes have been so ordered as to produce them, instead of the true assumption that from such causes the observed results proceed, and that with other causes in operation the results would be different. Prof. Henderson, of course, draws no teleological conclusion of the conventional type from the "fitness of the environment," but he points the way to a rational theory on the subject when he asserts "that the properties of matter and the course of cosmic evolution are now seen to be intimately related to the structure of the living being and to its activities, and that they become far more important in biology than has hitherto been suspected" . . . "that the process of cosmic evolution is indissolubly linked with the fundamental characteristics of the organism, and that in some obscure manner cosmical and biological evolution are one."

Recognition of some kind of purposiveness in nature is thus an enduring element of human thought. Beginning with the ancients, it has survived the negations of materialism and the fortuities of natural selection; for our own time it recurs in vitalism and finds distinct reverberation in the biological doctrine of orthogenesis. Yet none of the teleologies or half-teleologies of the past, whether religious, philosophical or scientific, supply us with the explanation we need. The method followed in the most typical of them is to refer the appearances of "design" to some general entity or principle, and use that as the cause of the phenomena to be explained, but without effort to trace its operation step by step through the action to the effect. Many of the "solutions" offered are founded on man's well-nigh ineradicable tendency to read into the universe and its processes the life, will, consciousness or personality—sometimes all these—which he finds in himself. Where the principle invoked is psychic, the theorist sets consciousness, the latest arrival, at the beginning of things, but fails to show how mind can emerge for knowing and directive functions from a power system which is manifestly preorganic; where the appeal is made to a universally diffused will he

commits the parallel yet more radical absurdity of positing life in advance of the only conditions that can make life possible. Too often, even in biological hypotheses, organic purposiveness is regarded as a new appearance in nature, as unlinked with any more elementary purposiveness in the inorganic. A vast amount of current reasoning about evolution proceeds on the assumption that teleological questions, being pertinent only to the realms of metaphysics and religion, can be safely ignored; much recent discussion in biology takes for granted that the issue regarding purposiveness in the organic is outside the purview of science. The specialist who studies vital phenomena is mainly concerned with the complications which life displays after it has appeared—with germ-plasm, heredity and the "Mendelian factors"; with details of cell development, with the manner in which the organism adapts itself to changes of environment, with the inheritance or non-inheritance of "acquired characters," and with the multifarious facts which bear on the "origin of species," as if none of the conclusions reached in these fields needed the buttressing of some radical insight into the meaning of life itself. And philosophy, which should realize that purposiveness is the fundamental problem in all nature study, busies itself more and more with the superstructure, lavishing its powers on the theory of knowledge, on the relation between mind and body, and on such sub-topics as pluralism, pragmatism and neo-realism. Needful as is work in these fields, it should not surprise that some of our modern teleologies are seen raising subjectivism to the n-th power, or succeeding only as contributions to the romance of metaphysics.