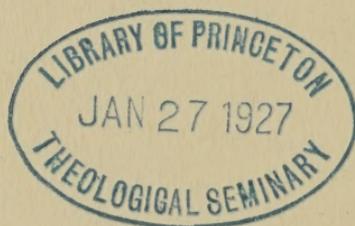


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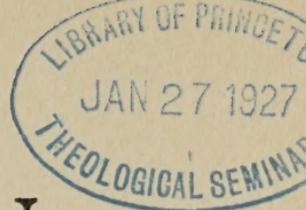
WILLIAM HALLOCK JOHNSON.



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Section

Can the Christian Now
Believe in Evolution?



Can the Christian Now Believe in Evolution?

By

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PREFACE

AT TWO academic gatherings held simultaneously during the Christmas holidays, 1925, two significant utterances were made on the subject of evolution. Professor H. F. Osborn, at the dedication of the Peabody Museum at Yale University, declared that the time had come when evolution should be taught no longer as a theory but as a fact. Meanwhile, at the meeting of the American Philosophical Association held in Northampton, Professor W. M. Urban, in his presidential address, said that the extreme statements now being made by evolutionary scientists were an evidence of the recrudescence of dogma. It is clear that the controversy has invaded academic circles, and that it can no longer be dismissed as a contest between obscurantism on the one hand and enlightened scholarship on the other.

The trial in the summer of 1925 at Dayton, Tenn., attracted world-wide attention, but neither the arguments in the courtroom nor the discussions in the press can be said to have been specially illuminating. The jury of intelligent public opinion, which must ultimately decide the question, is in search of evidence and argument rather than impassioned appeals to prejudice or authority. The Dayton trial, however, set a great many people to thinking, and most people, whatever their prejudices, want to know the facts.

The present modest contribution to the discussion of evolution has a threefold aim: to examine anew the present state of the evidence for biological evolution including the descent of man; to point out the philosophy in which the theory of evolution naturally if not inevitably eventuates; and to study the relations between this evolutionary philosophy and the theistic and Christian view of the world. It is clear that the relation between evolution and religion has become the leading apologetic problem of our age, and it is earnestly hoped that the following chapters will do something to clarify the issues involved.

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CHAPTER I
THE DARWINIAN REVOLUTION

"The very hopes of man, the thoughts of his heart, the religion of nations, the manners and morals of mankind, are all at the mercy of a new generalization."—EMERSON.

"One general law leading to the advancement of all organic beings,—namely, multiply, vary, let the strongest live and the weakest die."—DARWIN.

"Darwin, by his discovery of the mechanical principle of organic evolution . . . completed the doctrine of evolution and gave it that unity and authority which was necessary in order that it should reform the whole range of philosophy. Its most important initial conception is the derivation of man, by natural process from ape-like ancestors, and the consequent derivation of his mental and moral qualities, by the operation of the struggle for existence and natural selection, from the mental and moral qualities of animals. Not the least important of the studies thus initiated is that of the evolution of philosophy itself. Zoology thus finally arrives, through Darwin, at its crowning development; it teaches, and may even be said to comprise, the history of man, sociology and psychology."—SIR E. RAY LANKESTER.

I

THE DARWINIAN REVOLUTION

THREE great generalizations of science, the Copernican, the Newtonian and the Darwinian, have had a disturbing effect upon religious thought. The two polar problems in modern religious philosophy are man's place in nature and God's place in nature, and the teaching of Copernicus had an obvious bearing upon the first while that of Newton concerned the second. It remained for Darwin to propose a theory so comprehensive as to have a vital bearing on both of these central problems of religious thought.

When Alexander the Great pushed his conquests to the East, he assumed more and more the dress and habits of the Persians and to the disgust of his friends compelled even his Greek associates to pay him divine honors. In some such way the Darwinian theory of natural selection, as it conquered one after another of the provinces of human thought, took on more and more the character of a mechanical or materialistic philosophy and assumed to be the queen of the sciences and the master key to all knowledge.

The religious tendencies of Darwinism, especially as it hardened into Neo-Darwinism, might be illustrated by the inner logic of the theory itself, or from the statements of its most eminent spokesmen, or from

the consequences in the religious career of those who most ardently embraced it. There have not been lacking abundant warnings in the experience and in the utterances of Darwinians themselves that Darwinism has sounded the death knell of religion.

With Darwin's absorption in the advocacy of natural selection, his religious convictions were atrophied, and his latest utterances showed his agnosticism alike as to the origin of the world and the destiny of man. In the case of a leading disciple, Romanes, the acceptance of Darwinism led, for a long period at least, to a complete eclipse of faith and to the writing of a treatise designed to show that belief in God was no longer possible for intelligent men. Darwin's most authoritative spokesmen in England, Huxley the brilliant controversialist, and Spencer the systematic thinker, both exploited Darwinism in the interest of an agnostic metaphysic. In France Renan predicted as a result of Darwinism the gradual dying out of religion, while at a later date Metchnikoff flatly declared that man, the progeny of the brute, shares his destiny.

In Germany the two most prominent exponents of Darwin's theories substituted materialism and mechanism for a theistic view of the world. Hæckel in his youth was strongly religious and said in a letter: "There is nothing else in this enthusiasm for the microscope and the cell but the happiness and delight in this immense and miraculous world of the infinitely small, in which the Creator has revealed His most wonderful power and wisdom" ("The Story of the Development of a Youth"). Later he could say that

“with a single stroke Darwin has annihilated the dogma of creation,” and he asserted that the theory of evolution, which he held in the Darwinian form, had given the *coup de grâce* to the theistic postulates of God, freedom and immortality. Germany’s other most prominent Darwinist, Weismann, believed that the great riddle had been solved of the origin of what is suited to its purpose without the coöperation of purposive forces. The doctrine of evolution, he said, “supplies the keystone in the arch of our interpretation of nature and gives it unity; for the first time it makes it possible to form a conception of a world-mechanism, in which each stage is the result of the one before it, and the cause of the succeeding one” (“The Evolution Theory,” 1904, I, pp. 6, 7).

Darwinism presented a militant challenge to two of the fundamental doctrines of theism, those of creation and design. It is true that Darwin retained in the various editions of his published work the allusion to the several powers of life as having been “originally breathed by the Creator into a few forms or into one,” but this inconsistency or concession to prejudice has been removed with scant ceremony by later expositors. The leading disciples of Darwin have been and continue to be hostile not only to special creation but to creation in general, and they would agree with Hæckel that the doctrine of descent means practically “the non-miraculous theory of creation” (“History of Creation,” p. 422).

The most obvious effect of Darwinism was to destroy the design argument in the form presented

by Paley's Natural Theology. Darwin carried by assault the two ramparts of Paley's argument: first, that the adaptation of organ to use was everywhere so patent a fact that it could only be accounted for as being the intention of an intelligent (and benevolent) Creator; and, second, that each species was specially created and thus that the proof of wise and beneficent design was cumulative. Paley's defenses were demolished when it was shown that the fortuitous could account for the fit, that chance could mimic the work of design, and that the only creation in the world of life—if any be grudgingly admitted—was that of one or more primordial germs of life. Chance, and in the popular mind a cruel chance, had been substituted for beneficent design.

Another and a practically momentous corollary was drawn from Darwinism in the moral sphere. If the descent of man is to be taken seriously, then conscience must be evolved from the instincts of the herd and the sense of obligation is resolved into expediency or social convention. What Darwin called "the imperious word *ought*" ("Descent of Man," I, chap. 4) loses its imperial quality when it is reduced to the level of instinct. There is no obligation, apart from social sanctions, for an individual to do what he does not wish to do. As Howison has said: "The so-called Philosophy of Evolution, when given such a scope as to make evolution the ground and explanation of *mind* in man, is destructive of the reality of the human *person*, and therefore of that entire world of moral good, of beauty, and of unqualified truth, which de-

pends on personal reality for its being" ("The Limits of Evolution," 1901, p. 6).

Not only has the sense of obligation been weakened by the derivation of ethics from instinct, but there has been a transvaluation of values so that the ethics of the jungle and of the blond beast have been promulgated under the ægis of Darwinism. If a code of morals should be derived from nature as depicted by Darwin in one aspect of his theory, the first commandment of the law would be, "Survive; let the strong live, and the weak go to the wall." The ethics of a Caiaphas, a Herod, or a Pilate may under cover of Darwinism be recommended as more authoritative than the ethics of Christ.

Nietzsche, apostle of individualism and revolt, has been called "Darwin with a difference." In spite of his ridicule of Darwin in his later years, there is no doubt that Darwin supplied Nietzsche with his philosophical basis. War as supremely exemplifying the struggle for existence was no longer excused as a regrettable necessity but commended as the highest of duties. Nietzsche, who was Darwin in philosophical dress, certainly did much to sweep away the obstacles to militarism and to supply the atmosphere in which it could flourish and bear its choicest fruit.

Before the world war, Bernhardt the militarist fell back on Darwin: "Wherever we look in nature, we find that war is a fundamental law of evolution. This great verity, which has been recognized in past ages, has been convincingly demonstrated in modern times by Charles Darwin." During the war Viscount Bryce

said that German militarism found in the Darwinian doctrine of natural selection, the method of social and political progress (*Atlantic Monthly*, Sept., 1916); and Professor Vernon Kellogg, after a period of free converse with German officers, says that the point of view of the German officer "is a point of view that will never allow any land or people controlled by it to exist peaceably by the side of a people governed by our point of view. . . . It is a point of view that justifies itself by a whole-hearted acceptance of the worst of Neo-Darwinism, the *Allmacht* of natural selection applied rigorously to human life and society and *Kultur*" (Both in *Atlantic Monthly*, Aug., 1917, pp. 146, 148).

Bernard Shaw in his "Back to Methuselah" shows that the severest critics of Darwinism in its moral aspects are not to be found among the theologians. He says that "Neo-Darwinism in politics had produced a European catastrophe of a magnitude so appalling, and a scope so unpredictable, that as I write these lines in 1920, it is still far from certain whether our civilization will survive it" (p. 9). "At the present moment one half of Europe, having knocked the other half down, is trying to kick it to death, and may succeed: a procedure which is, logically, sound Neo-Darwinism" (p. 10).

Under the title of "Darwin the Destroyer," a disciple of Darwin, Gamaliel Bradford, has recently said: "It was Darwin, the gentle, the kindly, the human, who could not bear the sight of blood, who raged against the cruelty of vivisection and slavery, who

detested suffering in men and animals, it was Darwin who at least typified the rigorous logic that wrecked the universe for me and for millions of others" (*Harpers Magazine*, Sept., 1926).

The anti-religious tendency of Darwinism has not been confined to the sphere of philosophical theism or even of ethics, but the very citadel of Christianity as a system of doctrine and life has been assailed. Doubt has been thrown upon the authority of the Bible, upon the doctrines of sin and redemption and even upon the spiritual nature and destiny of man. Whatever elements favorable to theism a robust faith may find in Darwinism, its influence upon popular thought has been all the other way. For half a century it has been found in closest alliance with a philosophy which denies that this world is the product of the will and wisdom of God, and with a morality which substitutes the law of struggle and strife for the law of sacrifice and love. Judged by its fruits or historical effects, Darwinism has brought with it an anti-theistic philosophy and an anti-Christian morality.

CHAPTER II
THE ANTI-DARWINIAN REACTION

"The more deeply I pursued the alleged evidence for it [the Darwinian theory] and sought to gain, through special investigation, some essential proof of the genetic relationships of animals, the more clearly I recognized that the theory is a seductive romance, which deceptively pretends to give results and explanations rather than doctrine based upon positive foundations."—ALBERT FLEISCHMANN.

"In the present work, we shall endeavor to show that Evolution has long since degenerated into a dogma, which is believed in spite of the facts, and not on account of them."—GEORGE BARRY O'TOOLE.

"The theistic evolutionist who tries to occupy a middle ground between those who accept the Bible account of creation and those who reject God entirely reminds one of a traveler in the mountains, who, having fallen halfway down a steep slope, catches hold of a frail bush. It takes so much of his strength to keep from going lower that he is useless as an aid to others. Those who have accepted evolution in the belief that it was not anti-Christian may well revise their conclusions in view of the accumulating evidence of its baneful influence."—WILLIAM JENNINGS BRYAN.

"The question in dispute is whether atheists and agnostics have a right to teach *irreligion* in public schools—whether *teachers drawing salaries from the public treasury* shall be permitted to undermine belief in God, the Bible, and Christ, by teaching not scientific truth but unproven and unsupported guesses which cannot be true unless the Bible is false."—WILLIAM JENNINGS BRYAN.

II

THE ANTI-DARWINIAN REACTION

AT THE opening of the century an adjustment seemed to have been made and a sort of *modus vivendi* established between Darwinism and religion. The scientific critique of Darwin had toned down or made less certain those elements in Darwinism which were most hostile to religion, the factors of chance and of cruelty, and it seemed possible for a doctrine of descent to dwell in the same house with Christian theism, if not on terms of intimacy, at least without violent contention. Within the past few years the situation has rapidly changed. In the press and on the platform, in the pulpit and in ecclesiastical assemblies, and in state legislatures and courts, Darwinism and evolution have become the subjects of heated and prolonged debate. Darwinism in the two-fold sense of a doctrine of selection and a doctrine of descent has become news both in the secular and in the religious press, and it is evident that the whole subject of the relation of the Darwinian theory to religious thought has been reopened and the battle will have to be fought over again.

The history of the Darwinian theory would cover its triumphal march over the field of biology and then the rapid extension of its conquests over other and remoter fields until there seemed to be no more worlds

to conquer. The academic world has become "evolution mad." Everything must now be viewed from the evolutionary standpoint and the theory of descent is the magic key which will unlock the mysteries of the universe. Everything pre-Darwinian in biology, in philosophy, in theology, and even in logic and in morals must be thrown upon the intellectual scrap heap. Against this extreme position a reaction was to have been expected, and an increasing volume of protest has been made of late, both against the claims of evolution in outside fields and against the truth of evolution in its own field of biology.

The anti-Darwinian polemic has taken two forms. In the first place there has been in recent years a growing tendency among evolutionary scientists to challenge or deny the sufficiency of the theory of natural selection to account for the origin of species, and in the second place a new and vigorous attack has been made upon Darwinism in particular and upon the whole evolutionary theory on the ground of its alleged anti-theistic and anti-Biblical character.

The indictment against Darwinism in its broader sense as a theory of natural selection and a theory of descent runs somewhat as follows:

An anti-theistic philosophy, promulgated under the name of "the dominant category," is poisoning the springs of religious faith in our youth; the whole critical movement which has made a jumble of the Old Testament and has discredited the Old Testament history and religion is expressly founded upon the theory of evolution; the skeptical criticism which

seeks to eliminate the supernatural from the New Testament draws strength from the same source; the evolutionist with his denial of the fall and of the need of redemption aims at the heart of Christianity as a religion of redemption; the application of evolutionary principles to ethics robs both conscience and the law of God of their authority. But when we examine the foundation upon which these consequences so disastrous to religion are built, we find them to be of the flimsiest character. Evolution, it is contended, is only an unproved and unprovable guess, and the theory has become so extended and so vague in its meaning as to lack scientific value; it is bound to fall by its own weight and is already in a state of collapse.

Those who have engaged in this polemic have belonged for the most part to the conservative or fundamentalist wing of the church in America. Books and pamphlets which have been influential in the discussion have been Philip Mauro's "Evolution at the Bar," 1922; Alfred Fairhurst's "Organic Evolution Considered," 2d ed., 1913; A. W. McCann's "God—or Gorilla," 1922; George McC. Price's "New Geology," 1923; "The Phantom of Organic Evolution," 1925; L. T. Townsend's "Collapse of Evolution," 1922; W. H. Griffith Thomas' "What About Evolution?" 1918; and George Barry O'Toole's "The Case Against Evolution," 1925.

The most popular leader of the anti-Darwinian crusade in America has been Hon. William J. Bryan, who has thrown into the movement all of his earnestness and his power of popular appeal. He has done

much to bring the subject to the fore in ecclesiastical gatherings, in state legislatures and boards of education, and has made it a general topic of discussion throughout the country. In the Dayton trial Mr. Bryan with his opponent, Mr. Darrow, held the center of the world stage. His tragic death at the close of the trial stilled the voice of ridicule and had a sobering effect upon both parties in the controversy.

Opponents of evolution have not always belonged to the fundamentalist wing of the church. A trenchant argument against what is termed this "modern fetish" is made by Professor William H. Wood in his "Religion of Science," 1922. Professor Wood, in his attitude toward the Bible, miracles, and the like, is allied rather to the liberal or "modernist" group in the church, and yet he stoutly rejects evolution, declaring that it is without proof, that it is destructive of religious belief, that theistic evolution is an illogical combination, and that evolution is immoral in its consequences. He says on these points: "No animal ever has become a man as far as knowledge goes" (p. 146). "There is no *evidence* that man as man has been evolved out of lower natural forms or organisms" (p. 149). "Evolution finds no supreme personality in the universe" (p. 133). "The plain teaching of evolution is to deny personal immortality" (p. 156). "To reduce the dignity, the glory and the immortality of man to germ-cell eternity is to cut the nerve of progress, destroy civilization, open the door for all the animal traits and introduce the beast-like struggle which terminates in the survival of the

strongest. It would set back the clock of progress many thousand years" (p. 118).

It has been a weakness of the anti-evolutionary critique that it has been carried on largely by laymen in science whose testimony could be dismissed as incompetent and as warped by theological bias, but a recent book by Professor Louis T. More, an educator of note, a specialist in physics and the author of scientific monographs and articles, is not open to this criticism. The title of his book, "The Dogma of Evolution," 1925, puts the evolutionist on the defensive. He repeatedly charges the biologist with looseness of thought, and, speaking of Darwin, says that the physicist who is trained in habits of exact phraseology and rigorous logic is discouraged by "the loose language and the still looser reasoning of the evolutionist and the biologist" (p. 236). To express a doubt of the genetic connection of man, both body and soul, with the lower animals has been regarded as almost the unpardonable sin in academic circles, and the experts of the American Association for the Advancement of Science officially declared in December, 1922, that "The council of the association affirms that the evidences of the evolution of man are sufficient to convince every scientist of note in the world." It is now disconcerting to find Professor More saying bluntly that "the evolution of man from the lower animals" is "purely a matter of guess" (p. 331).

In spite of certain guarded concessions which Professor More makes to the evolutionist, his book in its

whole tone and animus might have been written by the most convinced creationist. The book is in fact a slashing critique of the evolution theory in its popular forms. Professor More contends that the hypotheses of natural selection, inheritance of acquired characters, mutations, and the like "are not proved and are really metaphysical and unverifiable in character"; that these hypotheses "inevitably lead to a mechanistic philosophy in which the phenomena of life are to be explained by physical and chemical processes," and that the expansion of biological evolution to include the realm of consciousness and social and ethical life has created confusion and disaster. In its religious application, "the real tendency of evolution is to be found in the philosophy of Nietzsche and not in the life of Christ" (p. 383).

Enough has been said to show that the revolt against Darwinism or evolution is not confined to any narrow circle within the church. The protest against the insufficiency of its evidence, the looseness of its logic and the anti-religious implications of its teachings has become vocal even within the halls of learning. In December, 1922, the experts of the American Association for the Advancement of Science, Professors Conklin, Osborn and Davenport, declared in a statement that "the theory of evolution is one of the most potent of the great influences for good that have thus far entered into human experience." It would have done more to allay popular agitation if these experts could have stated authoritatively that evolution was not anti-theistic in its tendency and was not opposed to the full acceptance of the doctrines of Christianity.

CHAPTER III

CAN BELIEF IN GOD AND EVOLUTION
LIVE TOGETHER?

"If there be a personality behind the universe, what sort of personality is it? Let us think his thoughts after him for a moment: We see this creation moving up from low to higher forms, from a chaos of star dust to an ordered universe of stars and planets; on the earth, from inorganic to organic, from crystal to vegetable, from vegetable to animal, from animal to human, until at last there comes the consummation of it all—*personality*. If this evolving universe has been headed toward anything, it has been headed toward personality. Can we suppose that, having finished this agonizing task, having completed at last His purpose—personality—God would toss it on the scrap heap as though He did not care for it at all, as though what He had wrought by *the agony of a million years* was but the caprice of a careless, passing whim?"—HARRY EMERSON FOSDICK,

"The doctrine of evolution, rightly understood and interpreted, is today one of the most powerful aids to religious faith. It has delivered thousands from perplexity amounting to despair. It has supplanted the old paralyzing conception of a "world-machine," a world mechanical and lifeless, grinding out human destiny without end. In place of that soulless mechanism we now have a growing organism. Science has shown us a universe alive, progressing, climbing with many backward steps toward "one far-off divine event." The doctrine of development has cleared away most of the difficulties in Old Testament ethics, and enabled us to reconcile teachings which, given in different centuries, are yet united in one book. It has furnished the church with a powerful apologetic, which many of our leaders are now using."
—W. H. P. FAUNCE.

III

CAN BELIEF IN GOD AND EVOLUTION LIVE TOGETHER?

DARWIN, in the most striking and original aspects of his teaching, took God out of nature and put men into nature. He took God out of nature in two ways, by denying special creation of the different species and by denying that the various organs useful to the life of organic beings were the work of design. When he included man within the bounds of nature—now thought of as having no direct connection with the will and wisdom of God—he gave, it seemed, the *coup de grâce* to the theistic view of the world. Whether man, “nature’s rebel,” would prove to be a disturbing element in his theory remained to be seen.

It is a proof of the inherent vitality of theism that it has been retained and defended even by some of those who have accepted evolution in its Darwinian form. A brief review of the attempts which have been made to harmonize evolution and theism may be conveniently arranged under the familiar captions of Genesis and Geology, Darwinism and Design, and the ethics of evolution and Christian ethics. Various attempts have been made to reconcile the early chapters of Genesis with the biology of Darwin and the geology of Lyell. Many theologians and scientists have

taken the Biblical account of creation as teaching moral and religious truth but under the form of oriental imagery, popular allegory, folklore myth, or frankly myth, perhaps borrowed from the Babylonians but purged of its polytheistic elements. When these chapters are so regarded, the conflict between Genesis and geology or biology is avoided, although to the disparagement of the Genesis narrative. Others have pointed out that the idea of succession and progress in the forms of life is found in Genesis and science alike, that the appearance of man is the culminating event in both, and that the order of events in Genesis is strikingly similar to that given by evolutionary science. Even Hæckel said that "two great and fundamental ideas, common also to the non-miraculous theory of development, meet us in the Mosaic hypothesis of creation with surprising clearness and simplicity—the idea of separation or differentiation and the idea of progressive development or perfecting. . . . We can therefore bestow our just and sincere admiration on the Jewish law-giver's grand insight into nature" ("History of Creation," I, pp. 37, 38).

Many Biblical students locate the geological ages before the six creative days began, that is between the first and second verses of Genesis 1. Thus C. I. Scofield in his Reference Bible says: "The first creative act refers to the dateless past, and gives scope for all the geologic ages. Jeremiah 4:23-26, Isa. 24:1 and 45:18, clearly indicate that the earth had undergone a cataclysmic change as the result of a divine judgment. The face of the earth bears everywhere the

marks of such a catastrophe. There are not wanting intimations which connect it with a previous testing and fall of angels" (p. 3). Dr. Scofield thinks the day in Genesis may mean a period. Vegetable germs may have been preserved in this catastrophe but animal life perished. "Relegate fossils to the primitive creation, and no conflict of science with the Genesis cosmogony remains" (p. 4).

Similarly L. T. Townsend, D.D., gives the rendering, "And the earth had become [past perfect tense] *tohu*, a wreck, and *bohu*, without inhabitant" ("Adam and Eve: History or Myth?" Boston, 1904, p. 81). There were no men before the ice age, which is practically described by the words *tohu* and *bohu*, and after this the earth was rapidly prepared in the six creative days of twenty-four hours each for the habitation of man. This scheme of interpretation is that of John Bloore in his "Modernism and Its Re-Statement of Christian Doctrine," 1923, and of S. D. Gordon in his "Quiet Talks About Simple Essentials," 1924. The latter declares that "there is no scientific difficulty in understanding such things being done in six common consecutive days, with God at work" (p. 55).

Another form of catastrophism is that defended by G. McC. Price in his "New Geology," 1923. Price with Howorth denies that there was any ice age or that large parts of America and northern Europe were at one time covered with an ice-cap. He refers the changes usually ascribed to glacial action to the action

of the Flood, and thus believes that man was upon the earth before these changes took place.

The Genesis and Geology debate has raised and still raises serious exegetical difficulties, but it may be maintained that these will be dispelled by increasing light from the sides of science and of Biblical interpretation. Professor Fairhurst remarks in speaking of the elaborate attempts which have been made to place the cosmogonies of Genesis and Geology side by side in detail: "I regard such efforts as a waste of labor. The one record is so general, and the other so imperfect, that we have no certain basis for detailed comparisons. If we cannot see that they perfectly harmonize, still, as shown above, we are not justified in asserting that they conflict" ("Organic Evolution Considered," 1913, p. 348).

If there is no exact and detailed correspondence this may not be altogether a disadvantage, for if the Genesis account agreed exactly with the science of today it would be sure to disagree with the science of tomorrow.

More serious for Christian theism was the Darwinian attack upon the design argument. Darwin's leading expounders were agreed that the design argument had been demolished and Darwin really shared this opinion, although he confessed that his mind was in a muddle on the subject. That the Darwinism of today is still hostile to the admission of design in nature is shown by the statement of a latter-day Darwinian, Julian Huxley, in his "Essays of a Biologist," 1923: "Darwin gave the deathblow to teleology by

showing that apparently purposive structures could arise by means of a non-purposive mechanism" (p. 41).

The feature of Darwinism that was hostile or fatal to design was the assumption that chance could mimic design, that the fortuitous could evolve the fit, that, to quote again from Julian Huxley, "in pre-human evolution, the blind chances of variation and the blind sifting of natural selection have directed the course of evolution and progress" (*op. cit.*, p. 11).

A notable attempt to construct an argument for design from Darwinian premises was made by John Fiske in his "Destiny of Man," 1884. His argument, carried on with marked literary skill, is that if man has come so far from origins so lowly it is reasonable to suppose that he will go further. Immortality, in fact, is but evolution at the end of its journey. If the long process ending in man has no meaning we are put to permanent intellectual confusion, and it can have a meaning only if the long chapters which tell of struggle have a fitting dénouement in a future existence in which man's powers can be developed and his hopes and aspirations realized. "So far from degrading humanity or putting it on a level with the animal world in general, the Darwinian theory shows us distinctly for the first time how the creation and the perfecting of man is the goal toward which Nature's work has all the while been tending" (p. 25).

For Henry Drummond and A. R. Wallace, as well as for Fiske, man was a standing argument for design in nature. "Ask the zoologist," said Drummond in

his "Ascent of Man," 1894, "what, judging from science alone, Nature aspired to from the first, he could but answer Mammalia—Mothers. In as real a sense as a factory is meant to turn out locomotives or clocks, the machinery of Nature is designed in the last resort to turn out Mothers" (p. 268). Drummond's special place in the apologetic of evolution is that he strove to correct what he deemed the one-sided emphasis upon the struggle for existence as a factor in progress. He admitted that the first chapter or two of evolution might be headed the Struggle for Life, but the book as a whole was really a love story (p. 218). The struggle for life is only the villain of the drama, which is really a moral drama, and its hero is the struggle for the life of others. The moral order, he insists, is a continuous line from the beginning (p. 26), and in the struggle of the plant to produce seeds and of the animal to beget offspring, and even perhaps in attraction and chemical affinity we see the beginnings of that process which in the light of its outcome we see as the evolution of love. Purpose and a loving purpose take the place of a blind and cruel chance.

The arguments of Fiske and Drummond, so far as they affect the place of man in nature, have been followed substantially by later evolutionary apologists. The essence of this apologetic is a principle as old as Aristotle that a thing or process is to be judged by its end, not its beginning—by the fruit, not by the root. The fact that the lily springs from the mud does not destroy the beauty of the flower. The lowly origin of man should not blind us to his essential nature. A

man's a man for a' that (whatever his origin), with the capacities, the spiritual nature and the mighty hopes that make us men. The genetic continuity and connection of man with nature therefore, it is held, should exalt our views of nature rather than lower our estimate of man. As Pringle-Pattison has expressed it: "Man is organic to nature, and nature is organic to man" ("Idea of God," p. 177). Nature, out of which man arose, should be judged from the standpoint of man, not *vice versa*, and when so judged there is nothing in man's natural or brute origin which shadows his title to his spiritual inheritance. Man in this view is not brutalized, but nature is spiritualized, and "the Nature of Darwin and Huxley and Mill becomes the Nature of Wordsworth and Emerson" (D. S. Cairns, "Reasonableness of the Christian Faith," 3d ed., p. 90).

In his later writings A. R. Wallace, co-advocate with Darwin of natural selection, finds design at three points in the evolutionary process. With Henderson after him and indeed with Paley before him, he finds teleology in "the existence of a special group of elements possessing such exceptional and altogether extraordinary properties as to render possible the existence of vegetable and animal life-forms" ("The World of Life," 1911, p. 416). The Mind that caused these elements to exist must be millions of times greater than that which conceived and executed the steam engine. He further assumes that the most rational explanation of the world of life is the view that its end is "the development of intellectual, moral,

and spiritual beings" (p. 341). Wallace would even reinstate design in the field of natural selection, holding that the vast life world of variety, use and beauty "does absolutely require some non-mechanical mind and power as its efficient cause" ("World of Life," p. 423).

Our three apologists saw an increasing purpose running through organic nature and running up to man. Wallace frankly assumed special creation to account for man on the spiritual side; Drummond less definitely brings in the action of Environment (with a capital E) in producing man and he says that "instead of abolishing a creative Hand, Evolution demands it" (*op. cit.*, p. 329); while Fiske says that man dichotomizes the whole universe—man on one side and the whole universe on the other.

It must be acknowledged, however, that there has always been a tension between evolution and theism, and that as evolution has "evolved" the tension has become greater rather than less. No scientific evolutionist of note, so far as observed, now advocates the Wallace theory of a spiritual influx or special creation at the appearance of man. On the other hand, in the classical exposition of theistic evolution, Le Conte's "Evolution and Its Relation to Religious Thought," (2d ed., rev., 1916), the author while claiming to be and intending to be a theist, acknowledges that by the line of thought he follows "we are carried strongly in the direction of pantheism" (p. 336). In whatever field he covers, the consistent evolutionist will not admit any intrusion, or influx of spiritual forces into the

stream of natural events. God may be postulated as a distant Originator in a deistic sense of the natural process or as a sort of spiritual underpinning of all existence in a pantheistic sense, but God is not allowed to act effectively and directly either in nature or human history. If in the beginning, He is only in the beginning; if in all things, He is in all things indiscriminately and so in nothing particularly. The inevitable tendency is uniformly to sacrifice the transcendence which theism requires to immanence. From biology and equally from anthropology and psychology and religious history the supernatural must be banished. What theism loses in this process is precisely what distinguishes it from competing systems of thought.

To link up with evolution a system of Christian ethics is equally difficult. Tennyson can sing in classic phrase,—

Move upward, working out the beast,
And let the ape and tiger die.

But he can say in another mood,

If my body come from brutes, my soul uncertain, or a fable,
Why not bask amid the senses while the sun of morning shines?

And Alfred Noyes can sing,

Down with Reticence, down with Reverence—forward—naked—
let them stare.

Do your best to charm the worst, to lower the rising race of men;
Have we risen from out the beast, then back into the beast again?

If evolution has any ethical imperative it may well be one that is suggested by Darwin's rule for the advancement of all organic beings, "Multiply, vary, let

the strongest live and the weakest die." Nature may indeed say, "Be good," but with Sir Leslie Stephen we may hear her say in an emphatic aside, "Be not too good." Those groups of men who reverence and obey what W. James calls "the ethics of infinite and mysterious obligation from high" may indeed have an advantage in the struggle for existence, but no way has yet been shown how such an ethics can spring from evolutionary soil.

Evolution, as we shall see more fully later, naturally gravitates toward that monistic naturalism which is proving to be the home of leading evolutionists in the twentieth as it was in the nineteenth century. When the philosophy of evolution is by pious and well-meaning hands introduced into the citadel of Christianity, it proves to be a Trojan horse which has within it forces that are destructive alike to Christian theism and Christian morals.

The recent sensational advances in physical science have pointed to a conception of matter as energy, and ultimately even as will, which is in harmony with a spiritual interpretation of the universe. In the meantime it cannot be said that twentieth century biology is making any positive contribution to religious thought. It is not likely to do so until biological science shakes itself loose from the philosophical dogmatism of the nineteenth century.

CHAPTER IV

GOD IN THE GAPS—THE ORIGIN
OF LIFE

"If God is only to be left to the gaps in our knowledge, where shall we be when these gaps are filled up? And if they are never to be filled up, is God only to be found in the disorders of the world? Those who yield to the temptation to reserve a point here and there for special divine interposition are apt to forget that this virtually excludes God from the rest of the process. If God appears periodically, He disappears periodically. If He comes upon the scene at special crises He is absent from the scene at intervals. Whether is all-God or occasional-God the nobler theory? Positively, the idea of an immanent God, which is the God of evolution, is infinitely grander than the occasional wonder-worker who is the God of an old theology."—HENRY DRUMMOND.

"Whoever claims to have succeeded in making living matter from inanimate will have to prove that he has succeeded in producing nuclein material which acts as a ferment for its own synthesis and thus reproduces itself. Nobody has thus far succeeded in this, although nothing warrants us in taking it for granted that this task is beyond the power of science."—JACQUES LOEB.

"With regard to the dawn of life it does not follow, as has often been pointed out, that although biogenesis is the only known law of reproduction today, the conditions requisite for abiogenesis have never occurred. We cannot say definitely what these conditions were, yet we can be tolerably certain that the lands and, particularly for this purpose, the seas of late Archæan times were very different from any modern conditions, terrestrial or marine. They are conditions that will never return, and are not humanly reproducible. The belief in such a natural origin of life is an exigency of thought."—JAMES Y. SIMPSON.

IV

GOD IN THE GAPS—THE ORIGIN OF LIFE

A STRANGE place to find God. "As if God lived in gaps," as Drummond exclaims. As if God who fills all things is to be looked for in discontinuities and exceptions rather than in the majestic sweep of His laws operative throughout the universe. Does not the very title of our chapter place theism in a humiliating and precarious position? If God is to be looked for in the exceptions, the implication is that He is not to be found in the ordinary ongoings of nature, and the danger always is that the gaps will be filled up and thus no place will be left for God at all. Certainly the theism that looks for God in the gaps alone is in a dangerous position while the scientists are busily attempting to fill up the gaps, and the philosophers are minimizing their importance, and even sober theologians like Bishop Gore are telling us that "we shall not, if we are wise, lay stress on the gaps in the scientific story of creation, or build on the conviction that living matter could not have evolved out of what had no life, or rationality out of animal mind" ("Belief in God," 1923, p. 58).

Before dismissing as trivial and unworthy of attention the argument that stresses the gaps or breaks in nature, let us look a little closer at the state of the

question. We may remind ourselves that evolution in its modern form was at first a scientific hypothesis to account for resemblances between species, but that the idea of genetic relationship was rapidly extended downward into the inorganic sphere and upward into that of human life and history. The theory of evolution itself thus quickly "evolved." It was readily transformed from a scientific hypothesis into a philosophical dogma, as it passed from the realm of empirical science into that of speculative philosophy. Evolution thus easily and perhaps logically became identified with a monistic view of the universe, or with a theory of divine immanence which looked askance at all breaks, gaps, interventions or intrusions, whether in nature or in the origin, life and history of man.

The question of the gaps in natural and human history is, as a matter of fact, important both to the scientist and the theologian. Evolutionists of standing are free to confess that they have compunctions of conscience when they use the word evolution in a broad and vague sense to cover the inorganic, the living, and the consciously purposive. As T. H. Morgan says: "What has the evolution of the stars, of the horse and of human inventions in common? Only this, that in each case from a simple beginning through a series of changes something more complex, or at least different, has come into being. To lump all these kinds of changes into one and call them evolution is no more than asserting that you believe in consecutive series of events (which is history) caus-

ally connected (which is science)" ("A Critique of the Theory of Evolution," 1916, p. 6).

Unfortunately for clearness of thought and precision of language it has become not unusual to apply the word evolution to all three realms—to the Domain of the Inorganic, the Realm of Organisms and the Kingdom of Man—indiscriminately and to the connection between them, so that we even meet with the statement that "evolution demands" that life was evolved from the inorganic by a natural process. The only way in which the same word can with propriety be used of the three distinct spheres is to deny their distinctness, and reduce them all to the same level. This can be done by a leveling down process in the case of materialism, or by regarding all three spheres indiscriminately as an expression of the divine life as is done by pantheism. We cannot look for "God in the gaps," because in the one case there are no gaps and no God, and in the other case God is to found everywhere in such a sense that He is to be found nowhere in particular.

From the theistic standpoint again the question of God in the gaps is not unimportant, in spite of the fact that the word is so short and the problem is often spoken of with disdain. It is indeed when it is broadly considered the question whether God is active in His world at all in any personal and preferential sense. The question of God in the gaps is at bottom the question of the supernatural.

The two most obvious gaps or breaks in the natural process are at the origin of life and the origin of

man. We speak of the solar "system," but there is no question here of a self-preservative and conative organism such as meets us in the simplest forms of life. How did life originate in a lifeless world? There are two possible answers: first, there were certain elements existing in the inorganic world whose physical or chemical actions and interactions produced life; or second, life was introduced into the inorganic world by some power outside of that world. Life was evolved, or life was created. There is no *a priori* reason for believing in one of these methods rather than the other. Before the days of Pasteur, spontaneous generation used to be accepted as an axiom on the ground that decaying meat bred maggots and dirty rags would soon swarm with life. Today we are more apt to hear that the natural evolution of life from the lifeless is an exigency of thought. The fact is that there is plenty of analogy in experience for both methods—the method of the production of new forms from preëxisting elements and the method of new results from the insertion of a new element into an existing complex.

In nature we have the unfolding of the seed—first the blade, then the ear, after that the full corn on the ear—but we have also the new put into the old, the leaven hid in the three measures of meal, till the whole is leavened. The bread will not rise unless the leaven is put in. Is the inorganic world the seed of the organic? Or is it the meal into which a principle of life must be introduced before there can be growth? There is plenty of analogy for both; and it is a ques-

tion of evidence in the individual case. Results reached by the slow and careful methods of science will command more confidence than the impatient assertion of a popular champion of evolution, Joseph McCabe, who says: "Every scientific authority in the world now believes that life was naturally evolved from the chemicals of the early earth. Everything that we *can* satisfactorily study was evolved, etc." ("A B C of Evolution," 1921, p. 29). The plea made by Benjamin Moore (in his "Origin and Nature of Life," 1912) that the search for the natural origin of life has had beneficent results and has led to the greatest discovery in medical science will be discounted when we reflect that as a matter of fact this discovery—that of antiseptic surgery—was the outcome of Pasteur's experimental *disproof* of spontaneous generation.

Since the experiments of Pasteur the problem of the origin of life has become acute. Evolutionary scientists have become more and more monistic in their philosophy. Heedless of Darwin's admission of the creation of primordial germs and Wallace's assumption of creative power to explain the higher endowments of man, the modern evolutionist in regular standing assumes as axiomatic that each stage of existence passes continuously into another stage without spiritual influx from without. On the experimental side, however, the advocates of abiogenesis have met with constant defeat. A sober statement is that of L. L. Woodruff, in his "Evolution of the Earth and Its Inhabitants": "We thus reach the gen-

eral conclusion that, so far as human observation and experimentation go, no form of life arises today except from preëxisting life" (p. 93). Geddes and Thomson say: "It is plain, therefore, that the doctrine of the origin of the living from the non-living cannot be held at present with a clear or easy mind" ("Evolution," 1911, p. 71). And J. S. Haldane says: "Evolution or no evolution, there is not the remotest possibility of deriving the organic from the inorganic" ("Mechanism, Life and Personality," 2d ed., 1921, p. 100).

One of the most interesting chapters in modern science is furnished by the attempts which have been made by evolutionary scientists to bridge the gap between the lifeless and the living and to bring the origin of life within the range of general law. With commendable patience and industry they have tried to make life in the laboratory—without success thus far; they have tried to imagine the antecedents or causes out of which life has sprung; they have sought for a formula, such as the action, reaction and interaction of Energy, which will bridge the gap between the living and the lifeless; they have spoken of a Law of Complexity which will endow lifeless matter with the attributes of life; they have fixed upon a substance, imaginary or real, such as the ill-starred *Bathybius* of Huxley or the modern colloid substance, out of which life is supposed to have sprung; they have referred the production of life to a series of lucky accidents; they have sought to escape the problem by referring the origin of life to other planets or by saying that life is eternal; they have declared

the period in which life arose to be unique and the conditions of its origin to be unreproducible; they have even postulated a continual production of organisms below the range of microscopic vision from the inorganic sphere today; they have explained the unknown by the more unknown by saying that life is brought forth in every mother-earth in the universe in the maturity of its development.

These various attempts to bring the origin of life within the domain of general law are not without variety and ingenuity, but in general they are speculative rather than scientific. They may be roughly arranged in three classes: (1) Theories which hold that life is being produced now from the non-living; (2) theories which maintain that life is not produced now but that it was formerly under conditions that cannot be reproduced, and (3) theories that hold that life was never spontaneously produced on the earth but that it came from some other planet or that it is eternal. The first theory, that of Schæffer in his presidential address (See *Science*, Sept. 6, 1912, pp. 294ff.), is that instead of the eternity of life (Arrhenius) or the spontaneous generation of life but once under inaccessible conditions (K. Pearson and others) or the meteoric conveyance of life to our planet (Lord Kelvin), life is constantly being produced and has always been produced from certain colloidal substances which he describes. He admits, however, that these countless beginnings of life have left no trace discoverable in the palæontological series or discernible now to the most delicate instrument. "Life" of

a certain kind may be constantly produced, but it is not the kind that has, it is assumed, evolved into the countless living forms which now clothe and people the earth.

If it be said that there is now no thoroughfare between the lifeless and the living, but that the line was crossed in the remote past under conditions which cannot be reproduced or even with any certainty imagined, we are again in the region of pure speculation carefully removed from possible scientific proof or disproof. In fact so slender a bridge that it could be crossed but once—at one period or even in one instance—lacks the required stability of a general law. If the gate to life is so straight and narrow that it could be passed but once under conditions impossible to reproduce or imagine, the origin of life is removed from the region of customary behavior or uniform sequence of antecedents and consequents, and the theory has no advantage for scientific purposes over an agnostic theory or one of special creation.

To assume that life as we now know it had no beginning or that it was brought to the earth by some meteorite is directly opposed to the scientific probabilities. Weismann, for instance, does not think that a germ of life could be conveyed within the crevices of a meteorite, because "it could neither endure the excessive cold nor the absolute desiccation to which it would be exposed in cosmic space, which contains absolutely no water" ("The Evolution Theory," II, p. 365).

It is safe to say that these theories, aside from their

being mutually destructive, have not bridged the gap between the living and the lifeless. If life is made in the laboratory we shall be curious to see of what sort it is and whether it can maintain itself in the struggle for existence. In the meanwhile the choice is between creative power and a miracle of speculative ingenuity or of rhetoric.

The problem is not simplified by altering the definition of life as is done by Luther Burbank when he says that "Life really exists as an organized force in all growing crystals; below even these we find instead of the organized growth seen in crystals, an amorphous life. Both crystals, the amebæ and other protozoan forms, respond definitely to some of the forces of Nature, such as gravity, heat and light; in other words, have the quality of positive and negative reactions—a limited power of choice, and from such faint prophecies of life, just emerging from the realm of chemistry, have come during æons of time, all the varied plant and animal life on this earth, including man himself" (Condensed from "Evolution and Variation With the Fundamental Significance of Sex," pp. 1, 2).

It is equally useless in solving the scientific problem to have recourse to a metaphysical hylozoism, which endows all matter with a form of life, or to adopt the parallelism of Spinoza as is done by Lloyd Morgan in his "Emergent Evolution" (1923). In the latter case life is "an emergent chord and not merely due to the summation, however complex, of constituent notes," i. e., could not have been predicted from the

fullest possible knowledge of the physical-chemical elements (p. 6). There is no "special insertion *ab extra*"—no "alien influx into nature"; divine Activity is omnipresent, for "God, if in any, is in all, without distinction of entities" (p. 13). Morgan would substitute the conception of "relatedness" for that of agency or efficient cause, but no help is given in this conception in explaining why life emerged at one time rather than at another.

The most pretentious attempt to account for the origin of life on naturalistic principles is that of Professor H. F. Osborn in his "The Origin and Evolution of Life" (1918). The lay reader will not see what is gained by the formula of the action, reaction and interaction (or the capture, storage and release) of Energy. If the word Energy is used in a more mystical sense, meaning the Infinite Energy of the Universe or the Energy from which all things proceed and which wells up in consciousness, we are in the realm of metaphysics, and the discarded idea of special divine Activity might even be concealed within the term. This of course is not Osborn's meaning, but it may still be objected that he uses the term energy in an indefinite sense. He even speaks of "the actions, reaction and interactions of living energy" (p. 7), as if he would build the bridge between the lifeless and the living out of the various meanings that might be assigned to the word energy. He admits that for the present the theory that accounts for the origin of life from physical causes is speculative and is philosophy rather than science. The question goes

back to the more ultimate question of the nature of life—"Whether it is solely physicochemical in its energies, or whether it includes a *plus* energy or element which may have distinguished LIFE from the beginning" (p. 281). Professor L. T. More after a lifetime spent in investigating the phenomena and laws of physics confesses that he can find no meaning in the statements of those who correlate biological and psychological with physical phenomena. To make out his case, it is maintained, even Professor Osborn is guilty of a "reckless disregard of physical law," and "either willingly or through inability to comprehend the elementary laws of physics, invents his own physics" (p. 269).

In spite of Osborn's discussion the fact remains that from all that we know of lifeless matter it does not produce life, and from all that we know of living organisms they are not produced by lifeless matter. Recent researches into the nature of life, and the structure of the cell and the phenomena of heredity, have increased the difficulties of a doctrine of abiogenesis. As E. B. Wilson says in his "The Cell in Development and Inheritance" (2d ed., 1900): "The study of the cell has on the whole seemed to widen rather than to narrow the enormous gap that separates even the lowest forms of life from the inorganic world" (p. 434).

Recent investigation has further increased the difficulty of the doctrine of spontaneous generation by bringing to light "the chemical complexity of the food of even the simplest protozoa or bacteria." Life must

apparently exist before the chemical elements necessary to sustain life could be utilized. If mysteriously one day a living cell floated on the face of the waters, it would, without a sort of double miracle, have no chance of living or of finding nourishment.

Modern research has exposed more and more the mysteries of heredity but has made it increasingly difficult for the physicochemical theorist to explain them. "The real problem of life," says a physician scientist, Dr. W. Hanna Thomson, in his "What is Physical Life?" "is how the microscopic single cell, with which each individual among the metazoa begins, should virtually contain not only all the structural peculiarities of the body of its parent without variation from its hereditary pattern, but should also have the power to determine where the untold millions of cells to grow from it are to find their proper places in the future adult body. What combination of physics and chemistry could produce this thing, when the inconceivably complex internal makeup of such a microcosm as that single primordial cell cannot be conceived of even by metaphysicians?" (pp. 99, 100.)

J. S. Haldane, not a vitalist, argues strongly in his "Mechanism, Life and Personality" (2d ed., 1921) that the mechanistic theory makes "a gigantic leap in the dark" in identifying stimulus and response with physical or chemical cause or effect (p. 32), and he concludes that "the phenomena of life are of such a nature that no physical or chemical explanation of them is remotely conceivable" (p. 64). Of the germplasm or nuclear germinal substance he says: "We are

thus forced to the admission that the germ-plasm is not only a structure or mechanism of inconceivable complexity, but that this structure is capable of dividing itself to an absolutely indefinite extent and yet retaining its original structure" (pp. 56, 57). There is no need to push the analysis further. "The mechanistic theory of heredity is not merely unproven, it is impossible" (p. 58).

It is natural that philosophers who can admit no real creation and no preëxistent Creator will find the idea of a supernatural hiatus between the inorganic and the organic "unphilosophical." How then is the obvious gap to be filled in? A. S. Pringle-Pattison, in his "The Idea of God" (1917), has a way of evading the difficulty which is not open to the scientist. The question of the origin of life is of no philosophical importance because the question of "sooner or later in a particular time series" (p. 98) is indifferent to philosophy. Philosophy is concerned only with the question of intrinsic nature or value, and "the temporal view of things cannot be ultimate" (p. 383). It is to be observed, however, that the author does not regard the time-succession as irrelevant in evaluating the place of man in nature. He says that man is "the last term in the series" (p. 110), and that "it is the emergence of intelligence . . . which supplies the final term, the goal or consummation of the evolutionary process" (p. 111). The fact is that temporal succession is of the very essence of the evolution theory, which is often defined as the theory that the present is the child of the past and the parent of the future.

If time is an illusion the difficulties of evolution are not solved, but the whole process collapses.

Our review of the problem of the origin of life justifies us in accepting the opinion of a biologist, Julian Huxley, that "of the first origins of life we know nothing and guess little" ("Essays of a Biologist," 1923, p. 17), and the statement of an astronomer, T. C. Chamberlin, in closing his work on "The Origin of the Earth": "The emergence of what we call the living from the inorganic, and the emergence of what we call the psychic from the physiologic, were at once the transcendent and the transcendental features of the earth's revolution." It may be unwise to stake the fortunes of theism upon a special theory of the beginnings of life on this planet, but we are safe in saying that there are at present no ascertained facts to prevent our referring the origin of life directly to the creative power of God. A full-orbed theism which believes in the transcendence of God over nature and in His creative power will be slow to believe that that power was exhausted in its initial exercise.

If God is to be found only in the gaps He is an absentee God conceived in a deistic fashion; if He can only act through general laws, His action is never free, personal and direct and He is conceived in a pantheistic fashion. A theism which stresses the personality of God will look for God in general laws which He has established in His providence for the government of the world, but will look for Him as well in those "big lifts" in nature by which He pre-

pares the way for the life of intelligent creatures, in those special arrangements of His providence in accordance with which He makes all things work together for good for those who love Him, and, in a sinful world, in those provisions of His grace in which His own love for His children is specially revealed.

CHAPTER V
THE ORIGIN OF MAN

"These religions [Judaism and Christianity] have unnaturally severed man from the animal world, to which he essentially belongs, and placed him on a pinnacle apart, treating all lower creatures as mere things; whereas Brahminism and Buddhism insist not only upon his kinship with all forms of animal life, but also upon his vital connection with all animated Nature, binding him up into intimate relationship with them by metempsychosis."—SCHOPENHAUER.

"For him [Darwin] the soul of man is no whit less the offspring of that of animals than is his body. Our psychic powers are new dispensations of theirs. The ascending series of gradations is no more broken for the psyche than for the soma. The gaps are no wider or more numerous from the lowest to the highest in the one than in the other. The affinities and analogies are as close, and the soul inherits as much from our venerable, brute forbears as does the body."—G. STANLEY HALL.

"Thou hast made him but little lower than God,
And crownest him with glory and honor.
Thou makest him to have dominion over the works of thy hands;
Thou hast put all things under his feet;
All sheep and oxen,
Yea, and the beasts of the field,
The birds of the heavens, and the fish of the sea,
Whatsoever passeth through the paths of the seas."

—PSALM 8.

V

THE ORIGIN OF MAN

IF THE evolution theory had not been extended to cover the origin of man, it would have possessed merely an academic interest. When it was made to include the genesis of man it was transformed from a scientific hypothesis, such as the molecular theory of gases or the wave-theory of light, into a philosophy of the universe.

Such an extension of the theory became inevitable when man was included within its scope. When man is brought under the sway of evolution every product of man's thought is likewise included, and evolution, a jealous mistress claiming all or nothing, becomes the dominant category, and every theory of the universe which man has constructed is itself the product of evolution. Darwin himself said that he "would give absolutely nothing for the theory of Natural Selection" if a difference in kind was admitted between man and the animals so that man was excluded from the sway of selection. The inclusion of man within the compass of evolution—of man as a thinking, loving, worshipping being—brings within its compass all of man's arts, sciences, philosophies, morals and religions. Every achievement of art, every discovery of science, every imperative of morality, every insight of philosophy, every aspiration of religion—including

the framing of the evolution theory itself—was due to forces resident in the animals below and before man, and ultimately to the properties of the primordial living germ; in fact were all latent in the last analysis in “a fiery cloud.”

The method of evolution is to explain the more evolved by the less evolved, the later and higher phases of existence by the earlier and lower, the moral by the non-moral, the conscious by the unconscious, and at length the living by the lifeless. The logician may object to the method of evolution as fallacious, but as long as the method—the explanation of the higher by the lower—is in vogue, the tendency of evolution is to explain moral and religious phenomena by the non-moral and non-religious, and evolution logically eventuates in a materialistic or at least a naturalistic philosophy of life.

In spite of this tendency it is sometimes said that the question of man's origin has no interest for the moralist or theologian. The questions of origin and nature, or origin and destiny, are different questions and man is what he is, with his hopes, aspirations, responsibilities and endowments, whether his origin be, in Lyell's words, from “mud or monkey.” The lily is pure and the rose beautiful even though they have their roots in a damp and moldy soil. “A man's a man for a' that,” and if man is genetically related to nature this should raise our conception of nature rather than lower our estimate of man.

Those who are familiar with the logic of evolution and the tendency of evolutionary writers know per-

fectly well that the evolutionary view of man has made a difference and does make a difference in the answer we give to the question, "What is man?" The question of pedigree or descent is important and very important to the heir presumptive to a throne or a fortune. Is man free? Has he kinship with the Divine? Has he a personality which will outlast the stars? The evolutionist inevitably throws the weight of his theory into the scales in answering these questions. He can account for man more easily if all of man's actions are determined by his physical environment. He can establish a descent from the brute more easily if he assumes that man has a destiny in common with the brute. If man on the other hand is a free being in a world of moral responsibility, a child of God (even if a prodigal child) and an heir to an immortal destiny, he cannot in his essential being be assimilated to the brute. He is different in kind as well as in degree. Naturalistic evolution must here confess its limitations or else be supplemented by principles which transcend if they do not contradict it. Evolution cannot account for the soul, and the only alternatives are to deny the soul, or to deny evolution, or at least to deny that the soul in its origin was subject to the operation of evolution.

It is not surprising that an evolutionist like Wallace (who retained his religious faith) should confess these limitations of evolution or natural selection; that an evolutionist like Darwin (who lost his religious faith) should limit the mental powers of man, holding that man with his lowly origin was incompe-

tent to judge high questions of the existence of God and immortality; or that an evolutionist like Romanes (who first lost and then regained his faith) should in the middle period assimilate the mind of man to that of the brute, and afterward confess that he had taken too little account of human nature. Wallace held that the mathematical, artistic, moral and spiritual endowments of man "clearly point to the existence in man of something which he has not derived from his animal progenitors—something which we may best refer to as being of a spiritual essence or nature" ("Darwinism," 1891, p. 474). Wallace pointed to a "spiritual influx"—the *bête noir* of later evolutionists—as the cause of these spiritual endowments.

The Wallace theory, it may be pointed out, has affinities which make it not unattractive to Christian theism. It maintains at once the transcendence of man over nature and the transcendence of God over nature and man—two essential articles of the Christian creed. Again, as in the Incarnation there was a union of the supernatural—the miraculous conception—with the natural processes of pre-natal and post-natal growth and birth, so in the origin of man there may have been the coöperation of what we call natural and supernatural forces. The coming of the First Adam and that of the Second Adam would thus be strikingly assimilated.

But the Wallace compromise, while appealing to a number of people, has proved to be difficult to hold in the face of the fire it has drawn from both sides. It is significant that the severest criticism has come from

the evolutionary side. Ridicule has been poured upon the Wallace view as teaching that "our brains are made by God and our lungs by natural selection." It is not strange that a theory that is so frank in its admission of the supernatural in the origin of life and of man and of the spiritual in the endowments of man is anathema to the orthodox evolutionist. It is entirely opposed to what are called "uniformitarian evolutionary principles," and its adoption would threaten the evolutionary philosopher with the loss of his fairest possessions. If the characteristics of man which are essentially human, his powers of thought and speech, his creative faculty in art, his moral and religious sense—are not the product of a naturalistic evolution, then evolution will no longer sit as queen of the sciences claiming to dominate theology itself. Then the psychological and moral phenomena, and what man has achieved in history and art and science and religion, can be studied independently according to their own appropriate rubrics, and evolution will then have to take a modest place. Then the tension between a logic which tries to interpret evolution and test its premises and its evidences, and a logic which is the product or servant of evolution, will be at an end.

The evolutionist is tempted to minimize the difference between the minds of men and animals. We may scale down the prerogatives of humanity nearer to the level of the brute. We may say that the mind of man is scarcely capable of dealing with the high themes of God and immortality, or may even dismiss the trinity of beliefs in God, freedom and immortality

as superstitions happily dispelled by the light of science. Man may thus be assimilated to nature, but it is to be observed that the man so assimilated is first carefully stripped of his distinctively human and spiritual inheritance, of those mighty hopes which make us men. The previous question is, What is man?

It is more usual to magnify the intelligence of animals. The animal mind when examined and experimented with is seen to have remarkably human qualities, the animal in fact must have some points of contact and communion with man, or the animal could not serve man in his work or delight him in his play.

Dumb animals, perhaps,—Who knows?
Are not as dumb as we suppose.

In the sphere of instinct, mysterious enough in itself, the animal seems to possess powers superior to man. The bird after its winter flight returns exactly to its summer nest in the far north; the homing pigeon carried for hundreds of miles it knows not whither flies with unerring accuracy to its destination; the eel travels even thousands of miles up the inland river to return thence in order to spawn in the deep waters of the ocean. Insects such as the ant and the bee have an elaborate and highly specialized life and supply examples of industry which man may well follow.

You may "eulogize" the animals, as some comparative psychologists are said to do, and may leave the witness box to become attorney for the defense, but the fact remains that there is a difference broad and

deep between the mind of man and the mind of the animal. A man may be ignorant and degraded, "a mere animal," as we say, but *homo alalus*—the man without speech—has never been found, and no race of men has been discovered incapable of education. The Terradelfuegians discovered by Darwin and at first said by him to be incapable of civilization are a classical instance. You may on the other hand educate a pig to play euchre, or a parrot to talk in parrot fashion, or a walrus to play baseball, or a monkey to eat with a knife and fork, or an elephant to dance, but the limit of educability is quickly reached. In spite of these polite accomplishments the fact remains that no animal has language, or can to any extent use abstract or conceptual thought, or, so far as we can tell, has a moral sense, or a religion; while no race of men has been found without language, without powers of reasoning, without a moral code and some belief in God and a future life.

Those who magnify the capacity of animals usually narrow the gap between animals and man by certain metaphysical or psychological assumptions. The transition is easier for the behavioristic psychologist because the behavior of animals and men are more alike than their thoughts. Again if consciousness be regarded as the effect of matter or the accompaniment of matter in a rigid parallelism, then the path leading from the animal to man is made smoother. The soul of course is correspondingly discounted. Again if the investigation assumes continuous development, the phenomena will fit in with it more

readily. Thus in the well-known words of Lloyd Morgan: "It is of course true that the laws of inorganic development are not the same as the laws of organic development: and equally true that the study of mind introduces us to a new aspect of the development process. Notwithstanding these obvious differences, the evolution that sweeps through nature is, I believe, one and continuous" ("Introduction to Comparative Psychology," p. 332). Here the monistic evolution which is assumed is the thing to be proved by the comparison of the minds of men and animals.

The difference between man and the animal, so strongly emphasized on the intellectual side, becomes even greater when we consider the spheres of morals and religion. Here again the tendency of evolutionary writers is to make the way easy for evolution by slicing off the characteristically human in man's make-up—his freedom and his sense of obligation, and to reduce morality to social convention. We have seen how Darwin treated the imperious word ought when he reduced obligation to instinct. When we start with "the ethics of infinite and mysterious obligation from on high," the evolutionist is at a standstill. It has never been successfully shown how the tendency to promote the health of social tissue can evolve morality, or how "the categorical imperative can be hatched from evolutionary eggs." A late writer on ethics complains that "the typical philosophy of science, with all its talk about evolution, has been in a real sense anti-evolutionary. What it calls evolution is only the shifting of unchanging elements in a more or less

continuous direction; by no chance does genuine novelty ever come into existence" (Arthur K. Rogers, "The Theory of Ethics," 1922, p. 101).

No more doughty champion of evolution ever lived than Thomas Huxley, but he said of man that "whether *from* them or not, he is assuredly not *of* them" ("Man's Place in Nature," p. 87); and in spite of his automatism in his theory of mind and matter and his agnosticism in religion he declared in ringing words that "the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combatting it" ("Evolution and Ethics," p. 34). Even Bishop Gore, who would not insist on the gaps, makes the biggest kind of a gap here when he contends throughout his book for the reality of human freedom, and for the "frank recognition of moral will as here directive of physical force" ("Belief in God," p. 235), and links up the question of freedom with that of miracle: "I think we shall find that the question of the reality of freedom . . . and the question of the credibility of miracles are at bottom one and the same question" (p. 234).

We come back inevitably to the question, What is man? Is he a mere thing, an object of nature among other natural objects, a transient link in a natural process, a raindrop between the clouds of birth and the ocean of death? Or is he above nature, a child of God, an heir to an immortal destiny? If the latter, then the roots of his enduring personality and of his spiritual endowments must be sought in the eternal world. They must have arisen not from the lair of

the wild beast, but from the bosom of God. Man, psyche as well as soma, can plausibly be made out to be the offspring of the animal only when first despoiled of his spiritual and distinctively human inheritance.

All evolutionists who believe in an immortal destiny for man must bring in somewhere (even if they have to smuggle it in somewhat shamefacedly) a sort of spiritual influx or special creation supplementing their naturalistic account of man's genesis. If they insist that "man still bears in his bodily frame the indelible stamp of his lowly origin," they are constrained to admit that in the framework of his mind and moral nature he bears the indelible stamp of his spiritual origin which he cannot have received from the brute. Thus Dr. Wm. W. Keen in his "I Believe in God and Evolution," 1922, speaks the language of naturalistic evolution until the end of his book when he declares, "Bodywise, man is an animal, but, thanks be to God, his destiny is not the same as the beasts that perish" (p. 98). And of the drama of human life he declares: "In its dawn we see man groping his way toward the light; then slowly, but surely developing his intellectual life; and finally—how or when we know not now, but doubtless shall know in the future, in the immortal life—the engrafting by the Creator upon his bodily life a moral and spiritual life, a soul with a desire to worship, a faculty of adoration of communion with his heavenly Father" (pp. 98, 99).

Professor L. M. Sweet, if we understand the argument of his "To Christ Through Evolution," is chargeable with a like inconsequence. He first rejects the

Wallace theory because of its "vicious dualism" and because it will not be acceptable to consistent evolutionists (pp. 204, 205), but then virtually returns to it in the conclusion that "man made his appearance by an act of God, and by a sudden upward leap, developmental in the sense that it involved a directive synthesis of processes already in operation throughout the animal kingdom and an inherited organic basis, but creative in the sense that it was not contained, and therefore that it cannot be explained, by anything which went before" (p. 274).

To spell Environment with a capital E, as is done by Drummond and his successor, James Y. Simpson, will not solve the problem. An animal cannot respond to a spiritual Environment without a miracle. The difficulties of the evolutionist at this point are well shown in Simpson's "Man and the Attainment of Immortality." He attempts to make the transition between "man-like ape" and "ape-like man" without any breach of continuity, but Omnipotence (if we may say so reverently) cannot make an immortal being out of an animal without a miracle. Simpson in fact recognizes this when he defends a theory of conditional immortality. Man as the product of evolution is not immortal, only "immortable."

It is idle to explain the spiritual by the natural and the attempt to do so leads necessarily to the denial of the spiritual. Man as a spiritual being cannot be forced into the mold of a naturalistic evolution without first being subjected to a drastic paring down process. "Nature" cannot produce a being that will

endure after nature has passed away. Man, body and soul (or body, soul and spirit, if you adopt the Scriptural distinction between the psychical and the spiritual) cannot at the same time be the offspring of the beast by natural generation and the child of God and the heir of immortality. If you believe that man is made in the image of God and has an immortal destiny you must bring in spiritual influx or special creation somewhere, even if you smuggle it in under cover of evolutionary terms. If on the other hand you regard the whole man as the result of a purely natural process, you logically and inevitably lower your view of man's capacities and endowments. To deny the supernatural in man's origin is to deny the spiritual in man's nature.

CHAPTER VI
THE BONES AND THE STONES

"The Old Testament opens with man made in the image of God, and the New Testament opens with God in the image of man."—DAVID LIVINGSTONE.

"There is a spirit in man, and the breath of the Almighty giveth them understanding."—JOB.

"In a series of forms graduating insensibly from some ape-like creature to man as he now exists, it would be impossible to fix on any definite point when the term 'man' ought to be used. But this is a matter of very little importance."—DARWIN.

"The question of the Descent of Man is in a realm somewhat beyond exact science, and philosophical criticism should be welcome, especially in its scrutiny of the terms in which the scientific verdict is stated."—J. ARTHUR THOMSON.

VI

THE BONES AND THE STONES

IN THE discussion of so momentous a question as that of the origin of man it is not surprising that prejudice has played a part. On the one hand there is the principle of continuity and unbroken succession, the fundamental assumption of evolutionary philosophy; and on the other hand there is the popular prejudice against relationship with the ape or with any other animal.

It has been suggested that the prejudice against relationship between man and the animal may not be all on one side. Thus Faber, the hymn writer, says:

I heard the wild beasts in the wood complain,
Man's scent the untamed creature scarce can bear
As if his tainted blood defiled the air.

On the other hand John Kendrick Bangs voices a popular sentiment when he sings:

Whate'er my forebears may have been,
Ape, insect, bird, flesh, fowl, or fin,
I am MYSELF, and, rain or shine,
Intend to fill the place that's MINE.
Say what you will, prove what you can,
About the Origin of Man.
No line of monkey ancestry
Can make a monkey out of me.

The older evolutionists, such as Darwin and Hæckel, had no hesitation in tracing man's descent to

a monkey or an ape, but the newer science is more soothing to man's *amour propre* and has relieved to some extent the sentimental objections—in deference, McCabe insists, to the “spiritual police”—to man's simian ancestry. Our poor relations do not trouble us if they are far enough away, and there is sentimental relief in the view of most modern authorities that man is not directly descended from any known animal, simian or otherwise, and that even his hypothetical ape-like ancestor lived hundreds of thousands of years ago and that his whole species is now extinct. It is a comfort to know that our immediate “poor relations” are now dead, and a half million of years or more is surely enough to remove the bar sinister and to establish beyond doubt man's title to his human dignity and his spiritual inheritance.

Is not this relief on the sentimental side purchased by a weakening in the chain of evidence which connects man with the brute? The evolutionist of today is intent upon maintaining two theses, which may be expressed in the words of Professor J. Y. Simpson: “First, that man cannot possibly have ascended from any of the living anthropoid apes; second, that the only tenable explanation of the measure of community of physical structure that exists between the two groups is their origin by a process of natural evolution from a common ancestor” (“Man and the Attainment of Immortality,” p. 45).

The evolutionist, it is apparent, has placed himself in a difficult position logically. The more evidence there is for one of his theses, the less evidence there

is for the other. If it is absolutely certain that man is not descended from the ape, why can we be certain that they are related at all? On the other hand if genetic relationship is certain, why do we have to go back of any known species of man or ape in order to find it?

But let us examine the objective evidence, from human skeletal remains and artifacts, that man was once ape-man or man-ape. The antiquity of man will not help the evolutionist unless ancient man was more ape-like than any race of men existing today.

Anthropologists know that some of the evidence must be discounted because of the obvious tendency to exaggerate the age of the bones or implements discovered. Dr. Ales Hrdlicka, of the Smithsonian Institute, has said that his division has repeatedly been called upon to investigate discoveries of human remains in America of supposed great antiquity, but that they have been found to be the bones of children, of animals, or of Indians of a modern type. On the other hand when a skull of modern structure is found in old formations there is a tendency to pass over the evidence. The famous Calaveras skull and the Galley Hill skeleton are cases in point. The Calaveras skull, according to R. S. Lull, was found embedded in "gold-bearing gravels of undoubtedly Pliocene age," but the man to whom it belonged "is not supposed to have been contemporaneous with the gravels" ("Evolution of Man," 1922, p. 9). So of the Galley Hill skull, found in gravel which Keith thinks is 200,000 years old, but so modern in its features that most anthro-

pologists do not regard it as ancient. Keith thinks that we might meet the Galley Hill man on the streets of London today and pass him by unnoted ("Ancient Types of Man," 1911, p. 32). The search is for remains with undoubtedly ape-like characteristics imbedded in undoubtedly ancient formations, and the question is whether such evidence is really forthcoming.

A careful review of the evidence adduced is called for, and we can do no better than to accept the guidance of a recognized authority, H. F. Osborn, who summarizes the evidence in popular form in a recent number of the *Asia* magazine. He says that the case for human evolution today rests "upon the discovery of numerous links in the long chain of ascent, which are either in the direct path of our ancestry or in a very nearly direct path. In the order of ascent, these great discoveries of our forebears, the first five in the list belonging to the Age of Man and the sixth to the Age of Mammals, are as follows: Cro-Magnon man, the last cave men found in western Europe; Neanderthal man, the first of the cave men found in western Europe; Heidleberg man, in the midst of the river-drift period, found in western Europe; Piltdown man, at the beginning of the river-drift period, found in Sussex, England; Trinil half-man, also at the beginning of the river-drift period, found in Java; Foxhall man, known only by his implements and his fireplaces, found in Norfolk, England" ("Where Did Man Originate?" *Asia* magazine, June, 1924, p. 427). The age he assigns to these—the estimates are given

as "only opinions, not facts"—are as follows: "Cro-Magnon man, 25,000 to 40,000 years; Neanderthal man, 30,000 to 60,000 years; Heidelberg man, 400,000 years; Piltdown man, 500,000 years; Foxhall man, 600,000 years" (*ibid.*, p. 430).

We are now concerned not with the antiquity of man but with the evidence for genetic relationship with the animal. If, as Keith supposes, a man similar in form and faculties to a modern Londoner lived on the banks of the Thames 200,000 years ago, this in itself would carry us no nearer to animal ancestry. Let us see how well Osborn's six races (including the Trinil ape-man) qualify as candidates for the position of links in human evolution from the animal.

1. The Cro-Magnon race, "preceding our own race by from ten to twenty thousand years" (p. 431), were at least our equals and probably our superiors in brain capacity and mental powers. "With a body like our own," says Osborn, "and a brain at least as large as ours, superior individuals of this race would have been capable of becoming senior wranglers at any of our modern universities" (p. 431). In another place Osborn says that the Cro-Magnon man was "our equal, if not our superior in intelligence" ("Evolution and Religion," 1923, p. 20). The Cro-Magnon race, in this case, whatever its age, carries us rather away from the animal than toward the animal.

2. The Neanderthal race is described by Osborn as "low-browed men with many characters of the head and jaw suggestive of the anthropoid apes" (p. 431). We are now dealing, as in the case of the Cro-Magnon

man, with actual skulls and skeletons which, while their age may be in dispute, were undoubtedly old, and can be compared, without resorting to an imaginative reconstruction, to the skulls of men living in our time. The relation of the Neanderthal race to modern man has been variously described. The Neanderthal man has been said to be (1) of the same species as modern man; (2) as the stock from which all modern races have arisen; (3) as later in appearance than the modern man (thus Keith reversing his former opinion), in which case the Neanderthal man might be degenerate; (4) as a separate species of men—a side branch not on the line of descent of modern man, and becoming extinct without leaving descendants. In none of these cases, except the second, which is now abandoned, can the Neanderthal man be regarded as one of the “numerous links in the long chain of ascent” of man.

The original Neanderthal skull, found in 1856, has been variously estimated as to its brain capacity, but the finding of a number of nearly complete skulls and skeletons, belonging to the same type and classified under the term *Homo Neanderthalensis*, show in their structure and the conditions in which they were found that they belonged undoubtedly to human beings and not to any intermediate form. In stature they were about like the modern Japanese. In culture they were like backward modern races: “The Tasmanians were found in a stage of flint industry very similar to that practised by the Neanderthals in Mousterian times” (Osborn, “Men of the Old Stone Age,” 1916, p. 234).

Their burial customs showed belief in a future life. As Simpson says: "Mousterian man assuredly knew the use of fire; he buried his dead; he believed in a hereafter; he is, in short, not merely a reasonable, but clearly a religious, being" ("Man and the Attainment of Immortality," p. 114). And Osborn says of the Neanderthal man that we have "evidence of his belief in a future existence" ("Evolution and Religion," 1923, p. 20). His physical characteristics are paralleled among the Australians and Eskimos today. His brain capacity on the average is equal to that of the modern white races. It is even held by some authorities, as by J. Elliot Smith, that the Neanderthal man has lost some primitive characteristics which still persist in modern man. Since there are plenty of parallels both structurally and culturally to Neanderthal man, he has clearly proved an alibi; he cannot be one of the "numerous links" in human ascent from the brute.

When the next three links in Osborn's chain of ascent are studied we are struck by four facts: (1) we are dealing with very fragmentary remains; (2) in the reconstruction of these remains and the inferences drawn from them (differing greatly with different authorities) imagination rather than the objective evidence plays a predominant part; (3) there is an immense and unbridged interval—about 350,000 years if we take Osborn's figures—between the latest of these links and the Neanderthal race; and (4) there is uncertainty about the age of the strata in which the remains were found.

3. Of the Heidelberg race, which some place earlier and some later than the Piltdown man, and some make contemporary with him, there remains only a single lower jaw bone found near Heidelberg in 1907. From a single bone of known species the comparative anatomist may be able to reconstruct approximately the entire skeleton, but it is different with a bone of what is claimed to be a new species—*Homo Heidelbergensis*. Osborn indulges in prophecy when he says that “probably in all other characters of the skull, as they become known, the Heidelberg race will be found to be a Neanderthal in the making, that is, a primitive, more powerful, and more ape-like form” (“Men of the Old Stone Age,” p. 100). His own photograph of an Eskimo jaw (p. 100) is strikingly like the Heidelberg jaw, and both are unlike the jaw of the apes. It scarcely strengthens the evidence when Osborn declares that “all agree that Schœtensack’s discovery affords us one of the great missing links or types in the chain of human development” (p. 101).

4. Going back, still with Osborn, another 100,000 years, we come to the Piltdown man, *Eoanthropus Dawsoni*. Professor A. L. Kroeber thinks that of the fragments of brain, small portions of the face, nearly half the lower jaw and some teeth found at different times in 1911-13, the age, brain capacity and compatibility of the jaw and the teeth with the pieces of the skull, are so uncertain that it is unsafe to build large conclusions upon the discovery, and that “the claim of the discoverers that the Piltdown form belongs to a genus distinct from that of man—*Eoan-*

thropus—is to be viewed with reserve” (“Three Essays,” pp. 15, 16). Similar doubts are expressed by Sir E. Ray Lankester in Wells’ “Outline of History,” who says: “We must remember that this patch of gravel at Piltdown, clearly and definitely, is a wash-up of remains of various later tertiary and post-tertiary deposits. . . . I think we are stumped and baffled! The most prudent way is to keep the jaw and the cranium apart in all arguments about them” (vol. 1, p. 46). That Osborn himself is quite at sea as to the reconstruction of these Piltdown bones is shown in the second edition of his work, “Men of the Old Stone Age,” 1916, where he says that “we must regard this as being the most primitive and ape-like human brain so far recorded; one such as might reasonably be associated with a jaw which presented such distinctive ape characters” (pp. 140, 141). Yet on page 144 he says that the jaw has been restudied and referred with “considerable certainty” to an adult chimpanzee; and on page 512 says that doubts about the jaw have been “entirely confirmed” by the study by Gerritt S. Miller, Jr.,—a result which “deprives the Piltdown specimen of its jaw and compels us to refer the skull to the genus *Homo* rather than to the supposed more ancient genus *Eoanthropus!*” Notwithstanding all this the Piltdown man, jaw and all, reappears in his article in the *Asia* magazine in 1924, duly authenticated by a photographic representation, with no hint of these disagreements among scientific men, and, singularly enough, with his age increased

from an estimated 100,000 to 300,000 years in 1916, to 500,000 years in 1924.

5. Even more tenuous is the evidence for an intermediate race of beings between man and ape in the case of the Trinil Ape-man, *Pithecanthropus erectus*. At different times in 1891-92, Dubois found in a river bed in Java a skull cap, two molar teeth and a femur, from the study of which he concluded that "(1) The four skeletal pieces in question were contemporaneous; (2) they were of the age of the stratum in which found; (3) they belonged to one skeleton; and (4) they represented a transitional form of beings between the anthropoid apes and man, belonging to the direct line of the genealogy of the latter." Dubois himself said that "*Pithecanthropus erectus* is the transition form between man and the anthropoids which the laws of evolution teach us must have existed. He is the ancestor of man" (as quoted Osborn, *op. cit.*, p. 75). All the four conclusions drawn by Dubois have been disputed by competent scientists, and the brain capacity indicated by the skull-cap is also in dispute. It is now usually given as 900 cc., less than that of all but the lowest human races. While an "immense literature" has grown up around *Pithecanthropus*, the strange thing is that the finder has concealed the bones even from other scientists for over thirty years. Hrdlicka speaks of it as regrettable that specimens so valuable to science should not be made freely accessible after twenty years had elapsed (See Smithsonian Publication 2300, p. 10), and that "not only the study but even a view of the originals are denied to scien-

tific men." It is to be noted that Osborn in his "Men of the Old Stone Age," 2d ed., 1916, and in his popular article in the *Asia* magazine makes no mention of the fact that his large inferences to the existence of a race of beings intermediate between ape and man is founded upon concealed and inaccessible evidence.

Now at length after thirty years as reported in the press (*Literary Digest*, Sept. 22, 1923) the specimens have been examined by scientists, and Dr. Hrdlicka reports: "None of the published illustrations or the casts now in various institutions are accurate. Especially is this true of the teeth and thigh bone. The new brain-cast is very close to human. The femur is without question human." Most of the discussion has plainly been conjecture based on inaccurate information.

In the press of December 28, 1925, Dr. W. B. Scott of Princeton reports the reception from Dr. Dubois of a plaster cast of the *Pithecanthropus* fragments from which he concludes that they indicate too large a brain capacity for any man-like ape, and belong to a being who was "distinctively a human of a very low grade." If *Pithecanthropus* was a human being he was not a link between man and ape, and if confident assertions continue to be made about "the pre-human Trinil race of Java" they will have to be discounted.*

6. Of the Foxhall man of 600,000 years ago there are no skeletal remains but his existence is assumed

*The press of Sept. 29, 1926, reports that a complete skull of an alleged "missing link" has been found in Java by a Dutch scientist, Professor Heberlein. Fuller information will be awaited with interest.

from the chipped flints and fireplaces found in early strata. The history of the palæolithic period in Europe is usually divided into periods, named after the localities in France where primitive flints were found—Chellean, Acheulian, Mousterian, Aurignacian, etc. Chipped and polished flints found in river-drift deposits and in association with the bones of extinct animals are undoubtedly ancient, while their age is variously estimated; but they give no substantial evidence of a subhuman or a prehuman race. Traces of a stone age can be found all over the world among both ancient and modern races. Australians and New Zealanders were in the palæolithic stage of culture when first discovered. The Tasmanians were even lower in the scale. As Osborn says (as quoted in the Yale volume, 1922, p. 3): “The native Tasmanians, of whom the last survivor died in 1877, were in a stage of culture which some have called Eolithic and others a rather early stage of the Paleolithic, perhaps Mousterian.” It is the opinion of E. B. Tylor in his “Early History of Mankind,” that a comparison of stone implements ancient and modern “breaks down any imaginary line of severance between the men of the Drift and the rest of the human species.”

The question whether there is evidence for an eolithic stage of culture earlier than the palæolithic is still in dispute, but the tendency is to deny that the eoliths are of human manufacture. The action of cart wheels, of concrete mixers and of stone crushers produce shapes similar to the eoliths, and in fact the eoliths if regarded as of human manufacture prove

too much about the antiquity of man. The eoliths are not specially more plentiful just before the opening of the palæolithic period than they were earlier. "It was found that eoliths occur in lower strata than the earliest Pleistocene, namely in the Pliocene, in the Miocene, and perhaps even earlier, in the Oligocene. Yet these periods are divisions of the Tertiary, or Age of Mammals—the age before man had evolved! In short, the argument cuts too far" (A. L. Kröber, "Three Essays," 1922, p. 33).

A temperate statement by an evolutionist indicates the present state of the question in scientific circles. The expressions that indicate doubt or uncertainty are italicized: "*It is pretty well agreed* that the anthropoid apes and man came from a common ancestor, and he in turn from some primitive, broad-nosed ape. *Some believe* that the mammals were evolved from a primitive reptilian form. *Others say* they came from the amphibians, which in turn evolved from a fish form, the latter from an invertebrate, and so on down to the protozoa. *Evolution must likewise assume* that under some favorable condition the earliest living forms were evolved from the inorganic world. Whether such a process is going on at the present *no one knows*. However, the facts of man's development, structure, and variations, which have been given above, *certainly can be best explained* on the basis of man's descent from lower forms, and human fossils, *as far as they go*, as is clearly shown in the previous chapter, definitely lead back toward a form from which both apes

and man *may have descended*" ("The Evolution of Man," Yale lectures, 1922, pp. 78, 79).

The evolutionist is on thin ice when he attempts to tell us the actual process by which the anthropoid ancestor developed into man. This occurred, according to Professor Simpson, in the western section of the plateau of Thibet when the primitive, common ancestors of men and the apes were compelled by the drying up of the forests due to the uplift of the Himalayas to descend to the ground—"that first fall to rise." Three possibilities were before these arboreal anthropoids: they must migrate, change their life habits, or become extinct. The first method was adopted by the anthropoid apes which moved southward to regions of greater warmth and easier food supply. The second method was that of seeking food upon the ground—"a desperate and hazardous adventure for arboreal forms during a period which was in many respects the zenith of mammalian carnivorous life" (*op. cit.*, p. 78). But this adventure and entrance into a new environment "with its challenging stimuli and beckonings resulted in further mental advance." The new activities reacted upon the brain and "the steady growth of the brain reacted upon the general shape of the face and skull." Given sufficient time for the process and anthropoid becomes anthropos and man has evolved.

In similar vein Joseph McCabe says in his "A B C of Evolution," 1921: "It has been suggested that perhaps our ancestors lived in forests in certain parts of Asia, and that, owing to the rise of the land and in-

creasing dryness of the atmosphere, the forests disappeared. Many reasons could be imagined. In any case, you will have no difficulty in seeing that such a descent from the trees will sharpen the wits. On the ground a sharper watch must be kept for enemies. . . . Physiologists work out the effect on the brain of all these changes." He adds rather naively that "if you allow at least half a million years to reach the level of the lowest savages from the level of the chimpanzee, you will realize that this suffices" (pp. 111, 112).

Other scientists find the cause of human evolution in the change from a vegetable to a meat diet, or in the assumption of an upright posture and the free use of the hands. The latest theory finds the secret of the growth of the cranial cavity in the pituitary gland. Thus Dr. W. K. Gregory says: "It is safe to assume that the action of glandular secretions in the humanoid stock, particularly the pituitary gland, was responsible for the rapid brain development and other structural changes, the erect posture, shorter teeth, speech, and other characteristics that distinguish man from the ape" (see "The Dawn Man," an authorized interview with H. F. Osborn and W. K. Gregory in *McClure's Magazine*, March, 1923).

What discredits these hypotheses in the judgment of common sense is not that they conflict with one another or that they make large use of the imagination, but that they are all hopelessly inadequate to bridge the gulf between animal and man. The drying up of the forests would explain the death of the monkeys

but not the birth of the human race, and at any rate "the arboreal theory of man's origin has been given up" (Osborn, in *Asia*, p. 431); there is no possible proof that putting monkeys or apes on a low diet or on a meat diet has now or ever did have a tendency to turn them into men; the gorilla has had a semi-erect posture for a million years or more, it is said, with his hands free to make any use of them he pleased, but it has never made a man of him; and as to the glandular theory the question is, whence came the glands which have had this marvelous effect? The removal of the thyroid gland from a sheep or of the pituitary gland from a dog will stunt the growth of these animals, but the presence or absence of these glands does not turn one species of animal into another. Time in itself has no creative power and cannot turn fiction into fact. Indeed the naturalistic theories of the method by which the transition was effected are more suggestive of the metamorphoses of Ovid than of the sober speculation of the scientist. Darwin was more cautious and said merely, in his "Descent of Man," "The free use of the arms and hands, partly the cause and partly the result of man's erect posture, appears to have led in an indirect manner to other modifications of structure." And Geddes and Thomson say that "it is possible that man arose as a mutation, as an anthropoid genius in short, but the factors that led to his emergence are all unknown" ("Evolution," 1911, p. 100).

The strict evolutionary view of man's origin has in fact become more difficult to hold as anthropological

science has progressed. When evolution in its theory of human descent was "a chain hanging by a missing link," it could be said that the link might be found at any time. Now the number of links has been multiplied indefinitely. Inferences drawn from the scanty skeletal and cultural remains—the bones and the stones—are extremely precarious, and of the few links in ascent of which traces are alleged to have been discovered, the opinion on fuller investigation is that these (Pithecanthropus, Eoanthropus, etc.) are not on the direct line of ancestry of modern man. The chain has been stretched out for one or two million years and all traces of it in the direct line, it is commonly admitted, are *spurlos geseht*. This imaginary chain reaching back into the unknown and distant past is attached to an imaginary being, of whose existence the only proof is the requirements of the hypothesis to be proved. Evolutionists are no longer bold enough to construct genealogical trees leading from nomad to man. If the starting point of the development is unknown, the course of the development is unknown and the method of the development is unknown, the fact of the development may well be doubted. No known animal shows any tendency to evolve into man, and it is a wholly gratuitous assumption, apart from the exigencies of a theory, that any animal with such a tendency ever existed. If no such general tendency is assumed but man arose but once as a sport, or discontinuous mutation, or by a spiritual influx, or increment of being, or in theological language a special creation, then the naturalistic theory that man

arose from the brute by a continuous, natural and knowable process is abandoned. If the line between man and animal was crossed only by a single pair, then we have a wholly unique event not covered by any known or general law of science. We are back in special creation—or chance which gives up the problem. It is necessary, when we think of it, that there should be a double miracle, for both the man and the woman must be evolved at the same time and at the same place, or there would be no continuation of the race.

For the naturalistic philosopher, who like Hæckel has a low view of man and no belief in a personal God, there can of course be no creation special or otherwise at any point of the series. For the theist, however, whether he be an evolutionist or not, it is "unphilosophical" to admit creation only at the lowest ranges of existence—in the case of the primitive atoms or the primordial living germs—but to deny it at the point which calls for the greatest exercise of creative power, the production of man with his godlike capacities and his immortal destiny.

CHAPTER VII
EVOLUTIONARY DOUBTS

"We declare that every wise thought and every useful discovery wherever it may come from, should be gladly and gratefully welcomed."—POPE LEO XIII.

"God forbid that we should give out a dream of our imagination for a pattern of the world: rather may He graciously grant us to write an apocalypse or true vision of the footprints of the Creator imprinted on His creatures."—FRANCIS BACON.

"We are utterly ignorant of the manner in which the idioplasm of the germ cell can so respond to the influence of the environment as to call forth an adaptive variation."—EDMUND B. WILSON.

"What may for the moment detain us is the curiously nearly completely subjective character of the evidence for both the theory of descent and that of natural selection. Biology has been until now a science of observation; it is beginning to be one of observation plus experiment. The evidence for its principal theories might be expected to be thoroughly objective in character, to be of the nature of positively observed, and, perhaps, experimentally proved fact. How is it actually? Speaking by and large, we only tell the general truth when we declare that no indubitable cases of species-forming or transforming, that is, of descent, have been observed; and that no recognized case of natural selection really selecting has been observed. I hasten to repeat the names of the Ancon sheep, the Paraguay cattle, the Porto Santo rabbit, the Artemias of Schmankewitch, and the de Vriesian evening primroses to show that I know my list of classic possible exceptions to this denial of observed species-forming; and to refer to Weldon's broad-and-narrow-fronted crabs as a case of what may be an observation of selection at work. But such a list, even if it could be extended to a score, or to a hundred, of cases, is ludicrous as objective proof of that descent and selection under whose domination the formation of millions of species is supposed to have occurred."—VERNON KELLOGG.

VII

EVOLUTIONARY DOUBTS

TENNYSON says that our little systems have their day and cease to be, and a Biblical writer indicates that the things that can be shaken will pass away. Is the theory of evolution one of the things that cannot be shaken, or one of those that will pass away?

There has been in recent years a terrible shaking of theories which have been regarded as eternal and immutable truth. The law of gravitation has been shaken by Einstein's theory of relativity. The principle of the indestructibility of matter has been called in question by the phenomena of radioactivity. Atoms described by Clerk-Maxwell in 1875 as "those foundation stones of the universe, unbroken and unworn," are now imagined by Sir Oliver Lodge to have a nuclear motion of the velocity of light. It would be a paradox of science if evolution, a theory of change, should be like the laws of the Medes and Persians which change not—if it alone should stand immovable amid the flux which it describes.

Signs of the awakening of doubt in the scientific mind are by no means absent. One of the most significant of these is Bateson's presidential address at Toronto (see *Science*, Jan. 20, 1922), which has proved to be something of a bombshell in its effect

alike on popular and scientific opinion. A few paragraphs will furnish a text for the discussion of this chapter.

“When students of other sciences ask us what is now currently believed about the origin of species we have no clear answer to give. Faith has given place to agnosticism for reasons which on such an occasion as this we may profitably consider. . . . We cannot see how the differentiation into species came about. Variation of many kinds, often considerable, we daily witness, but **no origin of species**” (p. 57).

“In dim outline evolution is evident enough. From the facts it is a conclusion which inevitably follows. But that particular and essential bit of the theory of evolution which is concerned with the origin and nature of species remains utterly mysterious. We no longer feel as we used to do, that the process of variation, now contemporaneously occurring, is the beginning of a work which needs merely the element of time for its completion; for even time cannot complete that which has not yet begun. The conclusion in which we were brought up, that species are a product of a summation of variations, ignored the chief attribute of species first pointed out by John Ray that the product of their crosses is frequently sterile in greater or less degree. Huxley, very early in the debate, pointed out this grave defect in the evidence, but before breeding researches had been made on a large scale no one

felt the objection to be serious. Extended work might be trusted to supply the deficiency. It has not done so, and the significance of the negative evidence can no longer be denied" (p. 58).

"The production of an indubitably sterile hybrid from completely fertile parents which have arisen under critical observation from a single common origin is the event for which we wait. Until this event is witnessed, our knowledge of evolution is incomplete in a vital respect. From time to time a record of such an observation is published, but none has yet survived criticism. Meanwhile, though our faith in evolution stands unshaken, we have no acceptable account of the origin of 'species.' . . . Analysis has revealed hosts of transferable character. . . . Specific difference, therefore, must be regarded as probably attaching to the base upon which these transferables are implanted of which we know absolutely nothing at all" (p. 59).

"We see novel forms appearing, but they are no new species of *Oenothera*, nor are the parents which produce them pure or homozygous forms" (p. 60).

"I have put before you very frankly the considerations which have made us agnostic as to the actual mode and processes of evolution. When such confessions are made the enemies of science see their chance. If we cannot declare here and now how species arose, they will obligingly offer us the solutions with which obscurantism is sat-

ified. Let us then proclaim in precise and unmistakable language that our faith in evolution is unshaken. Every available line of argument converges on this inevitable conclusion. The obscurantist has nothing to suggest which is worth a moment's attention. The difficulties which weigh upon the professional biologist need not trouble the layman. Our doubts are not as to the reality or truth of evolution, but as to the origin of species, a technical, almost domestic, problem. Any day that mystery may be solved. The discoveries of the last twenty-five years enable us for the first time to discuss these questions intelligently and on a basis of fact. That synthesis will follow on an analysis, we do not and cannot doubt" (p. 61).

Several points in his address are peculiarly significant. (1) There are no intermediate species, or intermediate forms between species as would be expected if the common theories of evolution are true (see p. 56). (2) There have been no observed or demonstrated cases of a change from one species into another. In the light of this careful statement of an authority of the first rank, it appears that a professor of zoology, H. H. Lane, permits his zeal to outrun his discretion when he says that "it is no exaggeration to say that now we have seen literally hundreds of new species produced by experiment either in laboratory or field. . . . *This is evolution*; there is involved no hypothesis or theory, in the ordinary acceptance

of those terms" ("Evolution and Christian Faith," 1923, p. 47). (3) The missing link in Darwin's argument for evolution, as Huxley saw in 1863, was the sterility of hybrids. The objection instead of being overcome by later research, as Huxley hoped, has now become in Bateson's opinion even more serious. The "stubborn mule" at least makes the knowledge of evolution "incomplete in a vital respect." The horse has been eulogized as the *cheval de bataille* of evolution, and if so as the matter stands it is a case of the horse against the mule.

(4) After more than sixty years of intensive research carried on by a host of the brightest minds in the field of science, the verdict of science, as voiced by an accepted leader, is that we are profoundly ignorant of the cause of the rise of new species. It is not simply that evolutionists differ in their opinion but that every theory thus far proposed is in Bateson's view untenable and unworkable. Numerous authorities of the first rank can be quoted agreeing with Bateson's agnosticism as to the causes of evolution. T. H. Morgan, a Mendelian, says as we have seen that "the causes of the variations that give rise to new characters we do not know" ("A Critique of the Theory of Evolution," p. 194). In his remarkable experiments with the wild fruit fly, *Drosophila ampelophila*, he has produced 125 different types or races, but says that no one could doubt that they all belong to the same species (p. 13).

V. L. Kellogg, in his "Darwinism Today," 1907, says that the "Great Cause" or "Great Desideratum"

is still to seek, and remarks: "With Osborn let us join the believers in the 'unknown factors in evolution.' Let us begin with *Ignoramus*, but never follow it with *Ignorabimus*" (pp. 377, 378). He adds: "We are ignorant; terribly, immensely ignorant" (p. 387). More recently in speaking of Lamarckism and Darwinism he says that "the recent great advance in the knowledge of the mechanism and manner of heredity has materially weakened the validity of each of these classic causal explanations of evolution" ("Recent Biology and Its Significance," *North American Review*, June, 1923, p. 753). But Mendelism itself, he admits, has very obvious limitations as an explanation of adaptation or of species-forming. The problem of the causes of evolution is "no less large and no less unsolved than in older days" (p. 754).

It is now quite commonly believed that new species arose from "mutations" and not from the minute variations or fluctuations of Darwin; but it is admitted with R. C. Punnett that "beyond the fact that it is a process initiated in the germ cells, almost nothing is known at present of the conditions under which a mutation arises. Until such knowledge is forthcoming, that most important link in any theory of evolution—the problem of the nature of species—must remain unsolved" (Art. "Evolution" in Hastings' "Encycl. of Religion and Ethics," vol. v., p. 623). The choice now lies, it is evident, between the theory of natural selection and complete agnosticism as to the process by which species originated.

(5) Bateson's creed is summed up in two rather

paradoxical articles: Complete agnosticism as to the effective factors of evolution, but practical certainty, described however as faith rather than knowledge, as to the fact of evolution. After sixty years of discouragement in the search for the unknown factor in evolution, after every sort of cause—we might almost say every conceivable cause, whether external or internal or both—has been tried and found wanting, we admire the optimism that can say, “Any day that mystery may be solved.” If a business corporation should put out a prospectus in the tone of Bateson’s exposition, the public would expect an application for a receiver rather than a declaration of dividends. To admit frankly that no case of descent has ever been observed, that the Darwinian method of descent is discredited, and that no alternative hitherto proposed will work, and that the standing argument against the theory of descent—the sterility of hybrids—has never been removed, all this is to repeat with high scientific authority what the much-despised “obscurantist” has been saying and, as Bateson realizes, cannot but confirm the anti-evolutionist in his convictions.

The embarrassing if not precarious position in which the transformist is now placed is illustrated by Professor Osborn. It was he, it will be remembered, who was the original sponsor for the “unknown factors” in evolution. It was Osborn who said in “Fifty Years of Darwinism” (1909) that in one aspect palæontology “gives to Darwinism a most emphatic negative” (p. 223); and who said in his “Origin and Evolution of Life” (1917) that “the causes of the

evolution of life are as mysterious as the law of evolution is certain" (p. 9). Shocked by the Bateson "bombshell" and its reverberations, Osborn has now in part at least reversed himself in his attitude toward Darwinism. He now declares in his "Evolution and Religion" (1923) that "Bateson is living the life of a scientific specialist, out of the main current of biological discovery, and that his opinion that we have failed to discover the origin of species is valueless and directly contrary to the truth" (pp. 3, 4); and further he asserts: "I would like to state positively that in my opinion Natural Selection is the only cause of evolution which has thus far been discovered and demonstrated" (p. 4). In the present state of opinion it would seem doubtful strategy to tie up the fortunes of evolution with those of natural selection.

The victory of evolution over the popular mind was due to Darwin's skillful defense of natural selection as a *vera causa* (given variation and heredity). When, however, natural selection is discarded, together with all alternative theories, evolution becomes a plausible hypothesis suggested by certain facts in nature, but without proof in fact that it ever did take place as a natural process, in view of the objections against every method suggested.

We are back indeed in the pre-Darwinian position of Robert Chambers in his "Vestiges of the Natural History of Creation" (1st ed., 1844), whose arguments in favor of descent Darwin repeated and amplified. These arguments as summarized by Darwin are geographical distribution, geological succession, homo-

logical structure, embryological development and rudimentary organs, but all of them are mentioned in Chambers' earlier work.

It cannot be said that these arguments in general have been materially strengthened since the time of Darwin or even of Chambers. Of the argument from embryology, for example, T. H. Morgan says that the newer views of germinal variation (Weismann) and of discontinuous variation (De Vries) have played havoc with the biogenetic law (p. 19); and Adam Sedgwick asserts that the explanation of embryonic structures referred to is purely a deduction from the evolution theory (Art. "Embryology," *Encycl. Brit.*, p. 322).

The plainest and most popular argument for evolution is that from comparative anatomy. When we see the similarity in structure between the hand and arm of the man and the ape, and the forefoot of rat, horse, and elephant, and less strikingly of the wing of the bird and the pectoral fin of the fish, it is natural to account for the similarity by the theory of common descent. A family resemblance points to family relationship and ultimately to a common ancestry. But there is another explanation, and an equally obvious explanation of this resemblance in structure. It is that of creation according to a common plan. We should expect all living creatures, who are to live in the same world and a world governed by the same mechanical principles and the same chemical laws to have numerous resemblances in anatomical structure and physiological processes. In practice a series of

forms arranged with reference to one or more characters may not correspond to the chronological series. Thus T. H. Morgan has shown that a number of series can be arranged among the mutants of the *Drosophila* fly, based on length of wings, color of eyes, etc., but that these serial arrangements would give an entirely false idea of the way in which the different types arose, or of the order in which they appeared ("Critique of the Evolution Theory," pp. 10-13). He thinks that the evidence which is based on a continuous series of the variants of any organ has little value.

The palæontological argument is today one of the main battle grounds of evolution. Current theories in geology and in biology are inextricably bound up together and modifications in either science will cause changes in the other. It was Lyell's theory of the succession of fossil forms in the rocks that "smoothed the way" for Darwin and Huxley, and it is admitted that a decisive element in the classification of the strata and the determination of their age is the character of the fossils they contain. Thus Le Conte says: "There are, then, two tests of a formation and a corresponding geological period, viz., 1. Conformity of the strata or *rock-system*, and, 2. General similarity of the fossils, or *life-system*. . . . Of these two tests, however, the life-system is usually considered the most important, and in case of disagreement must control classification" ("Elements of Geology," 5th ed., rev., 1907, pp. 203, 204). Again under the head of comparison of fossils, he says: "This is by far the *best*, and, in *widely separated localities the only*, method of

determining the age of rocks" (p. 206). Sir A. Geikie likewise says that "it is mainly by the remains of plants and animals imbedded in the rocks that the geologist is guided in unravelling the chronological succession of geological changes" (Art. "Geology," in *Encycl. Brit.*, 11th ed., p. 638).

Price in "The New Geology," 1923, protests against the biological onion-coat theory that successive strata of rocks each containing a different kind of fossils were universal around the world. Discussing the problems of "deceptive conformity" where for example the Cretaceous may rest upon the Devonian, the whole of the intervening strata being wanting, and of "thrust-faults" in which an "older" formation rests upon a "younger," he draws the perhaps too sweeping conclusion that "any kind of fossiliferous rock, 'young' or 'old,' may be found conformably on any other kind of fossiliferous rock, 'older' or 'younger'" (p. 296). He instances vast regions in Glacier National Park, in New York, in the southern Appalachians, in Utah and Idaho, in the Highlands of Scotland, in the Lepontine Alps, in Scandinavia and in Northern China in which "older" rock rests, sometimes conformably, upon "younger" rock; and he finds incredible the theories of folding or of lateral thrusts to account for all these phenomena. With more extensive study of the earth's crust the problem becomes more acute. Professor Price thinks that these cases of "thrust faults" constitute the crux of modern discussion of geological theories, and indeed the crux of the discussion about organic evolution. He complains that his book has

been treated by a "conspiracy of silence," and a careful review of his arguments by a competent evolutionary geologist would seem to be in order.

The strongest evidence for evolution, Professor More maintains in his "Dogma of Evolution," is to be found in the existence of fossil remains, but palæontology cannot be translated into chronology, and the study of the records emphasizes the breaks rather than the continuity of development. For example, "when the Silurian vertebrates appeared they did so without any transitional form having been preserved" (p. 154). Of the birds it is said that "the appearance of feathers as an apparatus for flying is as nearly impossible a fact to explain by evolution as can be imagined. By no known theory can a feather be accounted for. . . . Evolutionists have wisely and persistently avoided the solution of this problem" (pp. 156, 157). The sudden and abrupt appearance of the higher plants (angiosperms) is an analogous case in the vegetable world. "The more one studies palæontology, the more certain one becomes that evolution is based on faith alone. . . . The evidence from palæontology is for discontinuity; only by faith and imagination is there continuity of variation" (pp. 160, 161).

The chapters of the geological evidence have emphasized another fact that is apt to be slighted by the evolutionist, that of the fixity of organic forms. The microscope has revealed in regard to the world of Protozoa and unicellular forms "that this once invisible world is much the largest division of all the living

kingdom, exceeding in actual bulk all visible plants and animals put together." Whole strata of rocks are made up chiefly of the skeletons of diatoms (unicellular algæ); and of the Foraminifera it can be said that "a great part of the crust of the globe has been constructed by them in the form of massive strata of limestone, chalk cliffs and deposits, great in thickness and extent" (W. H. Thompson, "What is Physical Life?" 1909, pp. 70, 80, and 81). Yet according to current reckoning these forms still living today have remained practically unchanged since the known dawn of life. They have been subjected to the action of selection, variation, struggle for existence, change of climate and environment and the passage of time and are practically the same now as at the dawn of life. If, for a period computed at forty million years, like has been producing like in the larger part of the organic world, the unavoidable inference is that fixity of species is a basal law of nature. So long as we have to reckon with what Darwin called "the undiscovered and undiscoverable essence of species," it would be dogmatic to assert that one species has never been changed into another by natural causes; but the burden of proof rests heavily on the transformist to show where exceptions to the law of the fixity of species have actually occurred.

It is now sixty-five years since Darwin wrote, and leading evolutionists are confessing that they walk by faith, and that their faith is based on things hoped for and unseen rather than upon observed facts. At critical points the argument for evolution has not been

strengthened but rather weakened in the course of time. No certainly established transformation of species has come within the range of observation and experiment. Huxley's two difficulties, the infertility of hybrids and the persistence of types, have been emphasized, one by experimental breeding and the other by fossil discoveries. Palæontology has not revealed the transition forms which by hypothesis must once have existed. Proposed methods of transformation have proved to be of only limited application. Selective breeding shows that Darwinian variation is within rather narrow limits; Lamarckian use and disuse will not apply to the vegetable world and the inheritability of characters so acquired is in question; Mendelian inheritance must assume differences in the parent stocks before it can account for them in the offspring, and its range of variation is limited; the discontinuous variations of DeVries are not proved to be significant enough to leap the barrier of species, and if they are large enough they become almost indistinguishable from special creation; orthogenesis, or an inherent tendency to vary in a given direction, creative synthesis and creative evolution are all semi-mystical conceptions which pay toll to the creationist or introduce the ideas of creation surreptitiously. No theory has shown, perhaps because no theory can show, how within the arcana of the germ cells the straight line of heredity is deflected into that of specific difference; the unknown factor in evolution remains so long undiscovered because with great probability it is undiscoverable by the methods of science.

CHAPTER VIII
THE METAPHYSICAL REVIEW

"Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation."—HERBERT SPENCER.

"Wallace apparently thought of the material universe being underpinned throughout by a spiritual universe, and we have no right to object to that, but what the scientific mind recoils from is the suggestion that a spiritual influx occasionally operates dramatically, helping the organism over difficult stiles."—J. ARTHUR THOMSON.

"I agree that the view of Nature which I have maintained in these lectures is not a simple one. Nature appears as a complex system whose factors are dimly discerned by us. But, I ask you, is not this the very truth? Should we not distrust the jaunty assurance with which every age prides itself that it at last has hit upon the ultimate concepts in which all that happens can be formulated? The aim of science is to seek the simplest explanations of complex facts. We are apt to fall into the error of thinking that the facts are simple because simplicity is the goal of our quest. The guiding motto in the life of every natural philosopher should be, Seek simplicity and distrust it."—A. N. WHITEHEAD,

VIII

THE METAPHYSICAL REVIEW

THE remark has been made that "it is in the field of metaphysics rather than that of biology that the riddle of evolution will have to find its final solution." The exposition of evolution is sure to bring up such problems as those of cause, of the ultimate nature of reality, of the connection between mind and body, of the essential nature of man, and of the relation of God to the world. To deal with these problems would take a treatise on metaphysics, but a few points brought up by the current discussion may profitably be noticed.

It is often said that evolution has nothing to do with cause, that is at least with efficient cause. "Evolution is the illustration of a method, not the exposition of a cause." But when something new appears the demand for a cause, given the constitution of human reason, is insistent, and the evolutionist is in danger of assuming a dog-in-the-manger attitude if he will assign no cause himself and refuses to let anyone else point it out. Again it is said that evolution deals only with proximate or second, not with ultimate or first, causes. This assumes, from a theistic standpoint, that the appearance of the new in the world's history belongs in the sphere of Providence and not in that of Creation. But this is the whole

question at issue: whether the appearance of the new—of life, or of consciousness, or of man, or of the new species—can be accounted for by second causes, and should not rather be construed under the category of creation, mediate or immediate.

When the theistic evolutionist says that Science or Evolution does not deal with the problems of ultimate origins or of a First Cause, he is entirely correct, as the field of science is self-restricted. When, however, this statement is coupled with the assumption that everything in the world since the beginning has come about by “natural knowable” causes without “miraculous interferences and special creations,” he is practically abandoning his former position and is dealing emphatically with the problem of a First Cause. He is dealing with it by denying that such a Cause has operated at all in any direct and effective way in causal or creative action since the beginning. It may be that there has been no leaven put into the meal since the beginning and no thread added to the web, and that there has been no new graft upon the tree of life since the springing of the first seed, and that the origin of life and all varieties of life and the origin of the human race and of every individual were due entirely to natural and knowable processes, but it is difficult to reconcile such a position with belief in a personal Creator. We cannot believe in a personal Creator whose creative activity was exhausted as soon as it was exercised.

The creationist will find aid and comfort in the fact that many evolutionary theories approach so near to

that of special creation that the difference is merely verbal. Even theories of the origin of species have difficulty in keeping aloof from the discredited special creation. If it be conceded with Darwin that most species are rigid and but few change ("Origin of Species," ii, p. 272), and that in the latter only a few individuals show a specific variation, then we are leaving the ground of general law, and are dangerously near to that of special creation or at least of special guidance. This is equally true of other theories whether they emphasize the internal or the environmental factor. E. B. Poulton, of Oxford, says of Nägeli's theory: "The idea of evolution under the compulsion of an internal force residing in the individual is in essence little removed from special creation" ("Fifty Years of Darwinism," 1909, p. 25). The same may be said of Bergson's mystical current of life, passing from generation to generation and dividing itself among species. Weismann's theory that one identical germinal substance can produce the most divergent forms of life, in the opinion of Max Nordau, "hardly differs from that of a *new divine act of creation* as the origin of every single life" (see *Hibbert Journal*, July, 1912, p. 750). J. A. Thomson feels that there is not much to choose "between a theory of Man's origin by a hypothetical mutation, which one could not understand even if one knew that it occurred, and a theory of Man's origin by special creation in which one does not believe" ("Bible of Nature," p. 193). Darwin likewise thought that the sudden development of new and widely different forms in an inexplicable manner has

little advantage over the old belief in the creation of species from the dust of the earth. Bergson maintains that the production of the eye by minute variations on independent lines of development in mollusk and vertebrate must be a "miracle" and the work of "a good genius" ("Creative Evolution," pp. 65, 68). And J. A. Thomson again completes the circle when he says of Bateson's Mendelism that "it makes the origin and nature of the primordial organisms too utterly miraculous if we suppose them to have had such a rich stock of initiatives and implications" ("System of Animate Nature," vol. ii, p. 364).

We see that each of the typical theories in the view of its critics is no better than that of special creation. Little relief can be found in the use of the expressions "Epigenesis" or "Creative Synthesis," or even in the now popular "Emergent Evolution," for if the prefix "epi" or the term "creative" is given its full meaning, that is, if they mean genuine novelty, they call aloud for some adequate cause to account for the appearance of the new. If these criticisms made by competent evolutionists are correct, then we have to choose between the alternatives of special creation or of some theory differing only verbally from it. Special creation is a sort of mathematical limit to which evolutionists of all schools approach infinitely near but never reach.

From the standpoint of causation there is no satisfactory answer to the questions: How can the old produce the new? How can like beget like, as it demonstrably has done through countless ages, and

yet beget the different? The alternatives, in what appears to be the most advanced evolutionary circles, are complete agnosticism as to the process by which the new or the different is brought into being (coupled with the hope that the knowledge will some day be forthcoming) and a supernatural factor creative or directive. The Newton of biology is still needed to solve the problem: Who (or what) made thee to differ? and the problem is more serious when evolution is exalted into a comprehensive system of philosophy.

When the evolutionist is emphasizing continuity he insists that there are no gaps in nature, no intrusions, no supernatural hiatus, no spiritual influx; everything is the result of resident forces; "each stage in the process with all that it contains must find its explanation within the universe and not in something outside" (W. R. Sorley). When, however, the evolutionist is emphasizing progress and the outcrop of genuine novelties, then he speaks of epigenesis and of creative synthesis. But creative synthesis, the theist will insist in default of an explanation of why it is creative, is, being interpreted, simply another expression for special creation. To waver between the view that every phase of existence is a natural result of the past phase and the view that there are new beginnings, big lifts, and real increments of being, is to make evolution mean little or nothing.

When evolution is defined in terms of continuity alone, we hear of preformation and of the present being the child of the past; but when it is defined, as

it is just as frequently, in terms of progress, then we hear of epigenesis and creative synthesis. It is perfectly clear that evolution will not work without the use of both of these conceptions of continuity and progress, and it is equally clear that the only way in which these conceptions can be combined is in the framework of a theistic view of the world. Evolution, in fact, will not work without theism, for the operation of a supernatural factor alone provides the possibility of progress. The evolutionist may contend that given time enough the complexities of life and mind will evolve. But time has no causative or creative power. He may again begin at the other end, with the "highly evolved," and argue that the steps in the descent are so minute as to be negligible, and thus seek to liquidate his debt to causation by infinitesimal repudiations. But after all there must be a cause of the essentially new; something does not come out of nothing either gradually or suddenly.

No one has pointed out the hopeless *impasse* of naturalistic evolution and the fallacy of its regress from the higher to the lower better than the poet, Alfred Noyes, has done in verse and in prose. He argues the point well in his poem on "The Origin of Life":

In the beginning?—slowly grope we back
Along the narrowing track,
Back to the deserts of the world's pale prime,
The mire, the clay, the slime;
And then—what then? Surely to something less;
Back, back, to Nothingness!

This is not merely the old infinite regress of causes which thinkers have always sought to avoid,—*Ex infinito ne causam causa sequatur* (Lucr. ii, 255)—but it is a regress to causes less adequate at each step to produce the final result. The evolutionary regress—always to something less—demands more insistently the theistic postulate than did the old endless regress of finite causes. As Alfred Noyes says again, this time in prose: “We explain man by something less, and that again by something less, until we have whittled away all things visible and invisible. We have deliberately taught ourselves to look downward into nothingness, though true science and true reason and every natural instinct of religion would teach us to look upward to the ever-expanding heavens and the infinite power of God” (“Civilization Imperiled,” *Saturday Evening Post*, April 12, 1919, p. 22). No discoveries in science can do away with the law of causation, which is the foundation of all science.

No one appreciates more fully or has stated more frankly these logical difficulties of evolution than has J. Arthur Thomson in his “System of Animate Nature,” 1920. Professor Thomson stands high as a comprehensive thinker, a careful scientist, a graceful and popular writer and a reverent student of nature. He is not ignorant of the pitfalls of evolutionary logic, or of the devices used to escape from them. No anti-evolutionist has found more unerringly the weak spots of the evolutionary armor. *Evolution is vague in meaning.* “The study of organic evolution has been hampered by a plethora of words and a dearth of

facts" (ii, p. 353). *The term evolution is loosely used and its use "begs several questions" (ii, p. 355) when it covers the dissimilar fields of (1) the Domain of the Inorganic, (2) the Realm of Organisms, and (3) the Kingdom of Man. The fallacy of the generatio æquivoca should be guarded against.* "How watchful we have to be lest we get entangled in the vicious circle of inventing a past from its continued life in the present, and then interpreting the present in terms of the past" (i, p. 16). *The word evolution is not a sacred or magic charm.* "Some people talk as if they had only to mutter the word 'Evolution' for difficulties to disappear" (ii, p. 370). *Evolution will not work logical miracles.* "In no case can we think of consciousness arising out of motion" (i, p. 252). "No one can conjure 'mind' out of 'matter,' even if he invoke 'Evolution' many times" (ii, p. 385). "We cannot derive mind from anything else of a different kind" (ii, p. 507).

If, in spite of these warnings, we find so clear a thinker, so gifted a rhetorician and so persuasive an advocate as Professor Thomson falling into these very pitfalls which he himself has pointed out, it must be because of the weakness of the cause which he is defending. Two paragraphs are so important that they may be transcribed: "It is certain, from centuries of failures, that by no jugglery of words can we account for thinking in terms of matter and motion. Therefore the alternatives (1) to regard the scientific belief in evolution as in part at least an illusion, since what comes later, *e. g.*, thinking, is distinct in kind from

what comes earlier; or (2) to suppose that the lowest animals are potentially psychical; with, as Sir Francis Darwin puts it . . . 'faint copy of all we know as consciousness in ourselves.' The first position is not easy, for the evolutionary explanation is practically proved along anatomical and physiological lines; the second position is not easy, for the 'faint copy' becomes faint indeed when we pass to the simplest organisms" (ii, p. 374). Professor Thomson here falls into the pitfall of the vicious circle: consciousness is postulated where there is no evidence for it to account for consciousness later in the series. But the author again wilfully disregards his own warnings when he says: "Without losing sight of real differences we may believe in a continuity of evolutionary process from inorganic genesis to human history, but it must be confessed that there is a good deal of scientific faith implied" (ii, p. 377). And again he hints that living creatures were born "of the dust of the earth and the dew of heaven, with the sun shining on both" (ii, p. 385)—without indicating how often this happened; and he says even more plainly that "it seems very likely that organisms arose upon this earth from non-living materials, in a manner at present obscure" (i, p. 252). Professor Thomson—in order to avoid the dreaded "spiritual influx"—is led, gracefully but inevitably, into the pitfalls against which he had warned his fellow evolutionists. He must assume continuity of process in the three realms which he had so carefully distinguished. He must use the word evolution in its popular generality

and vagueness. He must assume "mind" in the inorganic sphere where there is no evidence even of life and every reason to believe that conditions of the planet made life impossible. He must even, it appears, stake the fortunes of evolution upon the questionable metaphysics of the "identity" or double-aspect theory, endowing even lifeless matter with the attributes of consciousness. "The desire for continuity impels us to the speculation that even the inorganic raw materials were psycho-physical" (i, p. 252).

Thomson, as we have seen, can save the doctrine of continuity and can prevent evolution in a broad sense from becoming an illusion only by invoking the aid of a lame logic, the vicious circle, and a dubious metaphysic, the identity or double-aspect hypothesis. By this strategy the flank of evolution's position is left dangerously exposed. In order to bridge the chasms, matter, contrary to common sense and scientific evidence, is endowed with life and consciousness; while man, contrary to religious faith, loses his soul as an enduring or independent entity. With characteristic and commendable frankness Thomson confesses that animism (the theory of the interaction of soul and body), while not favored by many scientists, "may be true for all that" (i, p. 240), and that if Bergson is right when he holds that "the mind overflows the brain on all sides, and cerebral activity responds only to a very small part of mental activity," that "then personality is not permanently tethered to protoplasm" (i, p. 242). If there is a future life then the soul can exist apart from the body and the identity

theory must be given up. In his later work Thomson says, alluding to Wallace's theory of a spiritual influx at the creation of man, "The idea of a divine inbreathing which made a mammal man, or an animate body, in St. Paul's phrase, a spiritual body, seems to us to be counter to the idea of continuity in evolution, as if there were two worlds and not only one. But we do not urge this either, since the upholders of the creationist view frankly prefer their transcendental continuity to our empirical one" ("What is Man?" 1924, p. 33).

The evolutionist is in desperate straits when he chooses the sphere of metaphysics rather than that of science as his battlefield, and when he joins his fortunes with those of a theory as vague and as vulnerable as the double-aspect theory. If common sense is right in believing that "dead matter" is without life and consciousness, or in believing that mind acts on body; if the religions of all time are right in believing that there is something for the dead and something better for the good than for the evil; if a religious thinker, Bishop Gore, is right when he contends that moral will is directive of physical force; if such scientific philosophers as Bergson in his "Mind-Energy" (E. T., 1920), W. McDougald in his "Body and Mind" (1911), and J. B. Pratt in his "Matter and Spirit" (1922) are right in their elaborate and powerful defense of interactionism—in any of these cases the theory of evolution must be given up as being "in part" (that is, in the philosophical part and at its crucial points) an illusion.

It may be conceded that Professor Thomson is not happy in his excursion into metaphysics, but surely he is on firm ground so long as he remains in the field of biology. Let us ask then, what is his theory of the origin of species. He says that the heart of the matter is "that living creatures with a will to live, with an insurgent self-assertiveness, with a spirit of adventure, with an endeavor after well-being . . . do trade with time and have commerce with circumstances, as genuine agents, sharing in their own evolution" (ii, p. 456). We seem to be back in Lamarckism, but Thomson, it is to be noted, does not believe in the inheritance of acquired characters (see ii, pp. 482, 483). All the self-assertiveness and endeavor after well-being in the world on the part of the organism will not be handed down to the offspring and so cannot be a factor after all in the rise of new species. Thomson is thus compelled, curiously enough, to transfer all this striving and self-assertion to the germ cells in order to make it effective in causing specific modification. "They too [the germ cells] make essays in self-expression" (ii, p. 431). "They make essays in self-expression which we call variations" (ii, p. 435). It was said earlier that evolution means that all the present fauna and flora arose "in a natural knowable way" (ii, p. 361) from somewhat simpler forms; but how can the self-expression of a germ cell be a knowable process? The transfer of Lamarckism to what goes on within the arcana of the germ cell is a novel hypothesis, but it is impossible to see how it has any scientific advantage over that of special creation.

Professor Thomson's elaborate and informing exposition of evolution may prove to be as significant in the present controversy as was Bateson's presidential address of the next year. Mill has said that by means of hypotheses we arrive at truths which are not hypothetical, but a scientific hypothesis is one that is capable of verification by objective facts. The hypothesis of descent with modification, or transformism, still remains, sixty-five years after Darwin wrote, in the hypothetical category. The case for the natural origin of species is not strengthened when evolution is erected into a pretentious philosophical dogma, buttressed on one side by a faulty logic and on the other by a dubious metaphysic. A theory in science, as was said by Sir J. J. Thomson in his recent lectures in this country, is "a tool, not a dogma." When the tool is exalted into a dogma it is no longer a very useful tool.

CHAPTER IX
EVOLUTION AND THE FALL,

"As a matter of fact the higher man of today is not worrying about his sins at all, still less about their punishment."—SIR OLIVER LODGE.

"The evolutionist sees in the story of the Fall merely a symbolical description of the gradual passing of primitive mankind from an original state of ignorance to the attainment of moral consciousness."—REGINALD S. MOXON.

"To the evolutionist sin is not an innovation, but is the survival or misuse of habits and tendencies that were incidental to an earlier stage of development and whose sinfulness lies in their anachronism."—CANON J. M. WILSON.

"No view of the human state is so inexpressibly sad as that which leaves out the Fall. The existence of evil in its many forms, as self-will and suffering and vice and crime, cannot be gainsaid, and, if this evil belongs to the essence of man as created, then there can be no prospect of relief here or hereafter. Sin will propagate sin in inevitable succession, as the greatest of ancient poets sang. Misery will be as the shadow which man casts when the sun is brightest. There can be nothing in him to drive out that which is part of his true self. The stream as it flows will always fall below its source. And this awful and inexorable rule knows in nature no reversal or repeal. Endless retribution is the plain teaching of the invariable sequence which we call natural law. Effectual forgiveness is the revelation of the Gospel."—BISHOP WESTCOTT,

IX

EVOLUTION AND THE FALL

VICTOR HUGO has said that the popularity of pantheism is due to the fact that man is unwilling to admit that there is any other being in the universe higher than himself. Modernism, so-called, is another illustration of this tendency in human nature. To the modernist of an extreme type there is no revelation except the record of religious experiences; no authority higher than that whose source and seat is in the religious consciousness. There is no personal creative power greater than that of man—

A man stood up in Panama,
And the mountains stood aside.

There is no inspiration higher than that of poet and artist. There is no Incarnation except that found in all the sons of men; no divinity except the manifestation of the divine in all men. There is no atoning sacrifice except as illustrating the general law of progress through suffering. There is no Holy Spirit except the spirit of Jesus in the lives of His followers. There is no salvation except through character; no regeneration except the realization by an individual of his highest capacities. Our very conception of God must be profoundly modified. God must be democratized. He is not a Creator and Sovereign, but is a member

of a community of which we also are members. Heaven—as well as this world—must be “made safe for democracy.” A Soviet publication called the *Bezbozhnik*, or “Godless,” says: “We have finished with the earthly Czars; now we shall deal with the heavenly Czars.” In more polite phrase, “Monotheism must pass, and some form of view consistent with a cosmic evolutionary democracy must take its place.”

Whether such pride is praised or deprecated, it must be admitted that the pride of man makes him reluctant to accept the superior, the unique, the transcendent, or in short the supernatural. He prefers to think that God is altogether such a one as himself, or at least different only in degree. The pride of man is humbled not only by the acknowledgment of the infinite attributes of God and of the transcendence of God in His holiness and the majesty of His power, but by the confession that man himself is not what he ought to be, that he is a sinful and fallen creature. However great may be the achievements of the human intellect or however complete may be its mastery over the forces of nature, the presence and blight of sin in human life makes unrestrained self-congratulation impossible. It is here that the evolution theory—the great achievement of man’s intellect of which he is justly proud—comes to the rescue of man’s self-esteem. Man, it tells him, is not fallen but rising, and the Fall and the Biblical story which enshrines it are frankly mythical.

In proportion as the evolutionist delights in the apotheosis of man he minimizes God and deprecates

any special interposition of God or display of His power in the world's history. Instead of saying, Have not Thy hands made all this? How wonderful are Thy works! the evolutionist can say, Has not my mind conceived this grand and all-comprehending system of cosmic evolution? Has not my intellect grasped at last the meaning of the universe and discovered the universal law which covers all the processes of existence from the primitive electrons to the grand dénouement of human history? As Themistocles among the Greeks erected a temple to All-Counseling Artemis and there worshiped at the shrine of his own genius, so the modern intellect in its devotion to the formula of evolution is practically worshiping itself.

To the modern mind, shaped upon the philosophy of naturalistic evolution, the supernatural elements of the Christian history and the evangelical doctrines of sin and redemption are equally unacceptable. It is plain that these doctrinal and historical elements of Christianity will stand or fall together, and the history and the doctrine afford each other mutual support. Apart from the supernatural there is no power that can save from sin, and if there is no transcendence of God in any sense, there is no holiness of God against the background of which sin will appear exceeding sinful. The supernatural in the New Testament is inseparably connected with the fact of sin and the purpose of redemption. The Son of man came to seek and to save that which was lost; the Son of man came to minister and to give His life a ransom for

many. The historical facts of the Incarnation and the Resurrection have no *raison d' être* apart from the doctrines of sin and redemption, and it is clear that these doctrines lie at the heart of the Christian religion—of the Gospel. The situation is serious and even critical when we are told from both sides that the doctrines of original sin and of redemption are incompatible with the scientific doctrine of evolution.

For fifteen hundred years—to go no further back than the time of Augustine—the doctrine of the Fall has furnished the base for the structure of Christian theology. Without the Fall, Catholic and Protestant theologians have united in declaring, there could be and need be no Redemption. A tradition or myth of a Fall has found its way into most of the ethnic faiths. Leading philosophers from Plato down have paid tribute to it. Kant speaks of the “radical evil of human nature” and of a “corrupt propensity rooted in men.” An acute American thinker thus paraphrases the words of the Prayer Book:

“My life has been, if not an active rejection of the good, yet a long acquiescence in something less than good. I have failed to shake myself awake to the conditions of my own welfare. I have accepted without protest enjoyments I have not earned. I have not enquired into the right of my own ease. Back of all my passivity was an awareness that life has, after all, its conditions; and I have failed to force myself up to the exertion or hardship of learning them. . . . I have not known in detail what I ought to do, and I cannot be judged for what I have not

known, but I judge myself for living in an ignorance which my will knew could be overcome" (W. E. Hocking in "Human Nature and Its Remaking"). With deeper insight into moral experience Bishop Moule, scholar and saint, has declared that the Apostle's statement in Romans 5:12-21 is the Scriptural expression of a consciousness deep as the awakened soul of man:

"That I have not only sinned, but have been a sinful being from my first personal beginning; and that I ought not to be so, and ought never to have been so. It is my calamity, but it is also my accusation. This I cannot explain; but this I know. And to know this, with a knowledge not merely speculative but moral, is to be 'shut up unto Christ,' in a self-despair which can go nowhere else than to Him for acceptance, for peace, for holiness, for power."

The doctrine of the Fall has become the storm center of the present controversy between evolution and theology. Here is where the shoe pinches. To believe in the Fall is to believe in the transcendence of God in His holiness and in the transcendence of man over nature, coördinate truths which have both been obscured by the theory of evolution, and is to accept as well a supernatural scheme for man's redemption. To deny the Fall is to take a different view of God and of man, of man's present condition and of God's provision for man's spiritual needs. The question is between anthropology as a branch of science, and anthropology as a department of theology, and the controversy may be as prolonged and as serious in its is-

sues for the church as the historic debate between Augustine and Pelagius. It will be convenient to notice the five possible relations which the theory of evolution may bear to the doctrine of the Fall.

1. It is held that *evolution excludes the Fall*. We must exclude man from the operation of evolution or take the doctrine of the Fall out of our theology. To do the former would be to rob evolution of most of its interest for human beings, for a theory of descent which reached only from amœba to ape would excite very little public interest, and to do the latter would be to cut very deep into the scheme of evangelical Christianity.

If the mental and moral as well as the physical endowments of man were the result of a gradual advance from an animal ancestry, there would be no place in this ascent in which to locate a Fall in the sense of a moral crisis of momentous importance to the race. Sin in its early stages would be merely immaturity or ignorance, and the first sin would be the most venial. A fault committed in the dawning of the moral consciousness and by a creature midway between *homo-simius* and *pithecanthropus* could never have had the moral consequences for all the race and for all time that are attributed to the historic Fall. The only Fall possible in this case was, in language ascribed to Theodore Parker, a "fall upward." There was no height from which man could fall, unless the first "fall to rise" was, as has been suggested, when man's simian ancestor descended from the trees and stood on his hind legs. The issue is sharply drawn by an evolution-

ist who has lately said: "We cannot accept the story of Eden and the Fall as history. . . . And let us remember that if this account of Eden and the Fall is not history, the current creeds of Christendom, not yet disavowed or revised, the theology still assumed, even where it is not directly preached—these have no footing in fact, they are but 'such stuff as dreams are made of,' they but cumber the ground of the church and the world and should no longer be allowed to impose upon the human understanding" (Marion Shutter. See *World's Work*, Oct., 1923, pp. 606, 607).

It is not surprising that, yielding to the spirit of the age and to the logic of the situation, many have discarded the doctrine of the Fall, some with reluctance and others with alacrity. A number of theologians of the liberal school have rejected the doctrine of the Fall at the behest of evolution. Thus Canon E. W. Barnes, of Westminster Abbey, thinks that belief in the Fall is "not vital to Christianity," and that the inevitable acceptance of evolution means the giving up of belief in the Fall and in the superstructure of theological doctrine built upon it. Canon Barnes' pronouncement was hailed as "a famous victory—for the Freethinkers," by the *London Freethinker*; while a Catholic paper of Boston, *The Pilot*, said that "the decision of the highest tribunal of the Church on Biblical matters does not leave this matter open to discussion. . . . The doctrine of the Fall of man can never be expunged from the Bible. It is the word of Eternal Truth" (see *The Literary Digest*, Nov. 20, 1920).

The doctrine of the Fall is an austere doctrine, unpopular in an age when "people are not worrying about their sins," and uncomplimentary to human nature. Rather than confess daily that we are miserable and fallen sinners, it is more flattering to human pride to acknowledge with complacency that we have come very far already, that every day we are getting better and better, and that, while there may be room for improvement, we have done on the whole remarkably well. The Fall has naturally become with evolutionists "a principal subject of mirth and ridicule." Says Willard L. Sperry:

"The modern man feels that Adam has been a badly overworked character in human history and that he deserves now some eternal Sabbath of respite from the obloquy which our thankless predecessors cast on him. . . . It was, of course, the advent of the modern sciences which issued Adam his indeterminate ticket of moral leave in history and wrecked the whole grim system which has been built up around him. He remained a person to conjure with ethically until he was confronted by Darwin, Lyell, Spencer and Co. Since then he has been superseded by a half-erect biped with a sharply recessive forehead, somewhere along the line between *Pithecanthropus erectus* and Neanderthal savage whose background is the nebular hypothesis and the primeval ooze; nebula, ooze and biped all alike simply non-moral ("The Disciplines of Liberty," 1921, p. 64).

Within the bounds of theology the Fall can be more easily dispensed with by the Jewish than by the Christian theologian. The Jewish Encyclopedia declares that "Judaism, having never taught the doctrine of the Fall of Man, is not obliged to reject the evolutionary theory on the ground that it conflicts with the dogma which demands the assumption of man's original perfections, and which thus inverts the process and sequence posited by the evolutionists" (Art. "Evolution," vol. v, p. 282). The Christian theologian cannot dispose of the Fall without rejecting explicitly the Pauline doctrine taught in Romans 5, and much more of the Apostle's system. There can be no doubt that on a fair exegesis of the passage mentioned the Apostle teaches that the sin of the first man brought an entail of sin and death upon the whole of humanity. The emphatic contrast repeated so many times in this passage between the sin of the one and its consequences incurred by the many leaves no doubt of the meaning on this point.

2. Less summary in their dismissal of the Fall are those who hold that *evolution interprets the Fall*. The vocabulary of evolution has often been employed to describe the phenomena of sin. Sin in the individual and the race may be called reversion to type, arrested development, partially evolved conduct, want of conformity to environment, transgression of the law of progress, refusal to evolve, resistance to the vital impulse. But in the transition from the animal to the human can there be found any place for a Fall or any explanation of the origin of sin?

F. R. Tennant in his "Origin and Propagation of Sin" (2d ed., 1908) has made the most notable attempt to answer these questions, giving up, indeed, the historic Fall, but trying on evolutionary principles to account for sinfulness and the universality of sin. Men are universally and inevitably sinners, according to Tennant, because they are descended from animals by ordinary generation. The clamorous self-assertive passions inherited from the animals become strongly entrenched, in primitive man and in every man, before the dawning of moral intelligence or conscience. Tennant is attempting to trace the evolution of sin, not the rise of the moral sense which makes sin possible. His theory is that at the beginnings of moral history (in the individual and the race) there is a chaos of instincts as yet unmoralized, rather than a fall from a previous higher condition. Amid this chaos of instincts the will stands neutral, without bias toward those which are condemned by the awakening moral sense. Yet sin—the choice of the lower impulses or the failure to obey the higher impulses—while it is not theoretically "an absolute necessity," is yet "something empirically inevitable for every man" (p. 113). There is thus a kind of racial Fall because of the overpowering strength of the animal or selfish impulses. When conscience at length demands the restraint of these impulses or passions it speaks with too weak a voice to secure obedience. Our evolutionary Hercules at the forks of the road is but a moral pigmy, and so inevitably chooses the wrong path, the line of least resistance. Instead of saying with the old theology,

that the old Adam is too strong for the young Melanchthon, we should say that the "old animal," the ape and tiger passions, is too strong for the later appearing and less mature moral sentiments.

The criticism is pertinent, that, if all men actually and inevitably sin, then sin is made inevitable by the constitution of their nature, and that, in the last analysis, God is the author of sin. Again it is scarcely just to our animal "cousins" to hold them responsible for human sin. It is admitted that the impulses which make for the preservation and propagation of the species have no moral quality in the animals, and the sharing of these impulses by men does not account for human sin. The animal impulses are not the cause of sin, but sin is the cause of the perversion of these instincts in themselves innocent. The disorder or chaos in human nature is not the cause but the result of sin.

It will be remembered that Hegel in his "Philosophy of History" says that the condition of innocence is the condition of animals only, that Paradise is a park where only animals and not man can live, and that the Fall is the eternal *mythus* of the way in which man became man. There is at least this truth in Hegel's exposition, that sin is not accounted for by what men share with or inherit from the animals, but by what men are in themselves as distinct from the animals. A healthy impulse of the early church led it to repudiate the Gnostic dualism which placed the locus of evil in matter, and the moral sentiment of the church of to-

day will reject the theory, that the sin of man is due to his assumed genetic relation to the animals.

As R. J. Campbell, who previously in his "New Theology" ridiculed the idea of a Fall, now says in "A Spiritual Pilgrimage," "By speaking of it [sin] as the remains of the ape and tiger qualities in our ascending humanity we belittle its tragedy, its terrible-ness, its ever-present menace." Tennant's critics are agreed that his theory leaves no room for that cry of the contrite heart which not only confesses to separate acts of sin but declares: "I was shapen in iniquity; there is a law of sin and death in my members."

Utilizing the insights and the vocabulary of Bergson's philosophy, S. A. McDowall, in his "Evolution and the Need of Atonement," comes nearer than does Tennant to the traditional view of sin and the Fall. Sin with McDowall is not merely a failure to moralize the animal passions, but is a conscious resistance to the vital impulse which runs through all organic nature. It is the voluntary checking of the evolutionary process which is the divine plan of human progress. There is in every individual the realization that life has a purpose, and the feeling of a duty to promote that purpose. When the individual opposes this movement of progress he allies himself with the forces of katabolism and destruction and thus checks the progress of the community and the nation. The solidarity of the race in sin is emphasized. Tennant, as we have seen, could only admit a kind of racial Fall due to the overpowering strength of the animal or selfish passions. McDowall locates sin more definitely

in the conscious will, and the first sin might, in his construction, be called a Fall because it weakened the will to progress and made it harder for humanity to achieve its God-appointed goal.

The difficulty in naturalistic schemes of evolution is the difficulty of accounting for man as a moral and spiritual being. Both sin and virtue lose their true character when interpreted by man's relationship to the animals. We may speak of sin as failure to moralize the self-assertive animal passions, as refusal to coöperate with the vital impulse, as failure to promote the health of social tissue, or with W. E. Hocking, as "refusal to interpret crude impulses in terms of the individual's most intelligent will to power" ("Human Nature and Its Remaking," p. 116). The question however is unanswered: Why am I under any obligation to repress the animal passions, or to coöperate with the vital impulse, or to seek the well-being of society, or to interpret and exercise the will to power,—in case I do not wish to do any of these things? The possession by man of certain natural impulses supposed to be derived from the animals furnishes no reason why these impulses should be repressed. An aggressive school of psychologists (the Freudian school), indeed, would say that the disorder in man's nature consists precisely in the unnatural suppression of these impulses. If sin is defined with Bishop Gore as "the refusal of allegiance to God and rebellion against the law of our true being" ("Belief in Christ," 1923, p. 270), then we have an adequate definition of sin because sin is defined from our rela-

tion to God and not from our relation to the lower animals.

3. We may next consider the mediating theory that *evolution* while not explaining the Fall *leaves room for the Fall*, or at least in some way for its moral equivalent. If we accept the view of A. R. Wallace that man on his physical side is related genetically to the brutes, but that in his moral and spiritual nature he is the product of a spiritual influx or special creation, the origin of man would then technically belong to the category of what the older theologians called "mediate creation," that is, not creation *ex nihilo*, but the insertion into the complex of nature of something new, which what was previously existent in nature was not adequate to produce. The older doctrine of the Fall could thus be retained in spite of evolution. Man would be made in the image of God, there would be nothing in his relationship to the brute to necessitate or make inevitable the supremacy of his lower passions, his sin would indeed be a mystery (as it is on any theory), but the effect of his sin on his descendants would be open to discussion as it was in the day of Augustine and Pelagius.

Drs. James Denney, Charles Gore and James Orr represent a school of theologians who are evangelical in their view of the seriousness and sinfulness of sin, but accept, with reservations, the evolutionary account of man's origin. Denney thinks that the origin of sin even with the Old and New Testaments before us cannot be explained. He regards the story of Genesis 3 as frankly an ætiological myth to explain human

misery. "This chapter does not contain history or dogma, but ethical experience expressed in mythical language. It is not the story of the first man, but of every man; and, if the key to its form is to be sought in comparative mythology, the key to its content can be found only in the soul."

Bishop Gore, as we have seen, is not concerned to remove the soul from the operation of evolution, and he is not specially interested in the question of the antiquity of man or in that of the single or multiple origin of the race. He believes, however, that "the emergence of the distinctively human faculties, and the place and manner of such emergence, are still involved in impenetrable obscurity" ("Belief in Christ," p. 274). He attaches the highest value to the early chapters of Genesis, taking them as symbols, not history. "We see in them the clearest traces of divine inspiration. We see there true ideas about God and His mind—about the world and man's relation to the world and his relation to God, about the origin of and nature of sin and its consequences, and about God's dealings with man both in judgment and mercy—all so vividly expressed that a child can understand them and the imagination of mankind can never get rid of them" (p. 275). And, again, we can hold to the substance of the Pauline doctrine, "if we take the Old Adam, not as an historical person, but as the symbol of our race as it has made itself by sin, to which by our birth and natural tradition we belong" (p. 278).

Dr. Orr speaks of the narratives of Genesis as being clothed in "allegorical or figurative dress," but as be-

ing "the oldest and most precious traditions of our race, worthy in their intrinsic merit of standing where they do at the commencement of the Word of God, and capable of vindicating their right to be there: not merely, as most would allow, vehicles of great ideas, but presenting in their archaic way the memory of great historic truths. The story of the Fall, thus regarded, is not a myth, but enshrines the shuddering memory of an actual moral catastrophe in the beginning of the race, which brought death into the world and all our woe" ("Sin as a Problem of Today," 1911, pp. 165, 166).

Theologians who accept evolution but find an historic basis for the doctrine of the Fall in the Genesis narrative and the Pauline exposition must consider three points in the evolutionary scheme: (1) It is said that the sin of Adam could not affect his descendants because acquired characters are not transmitted. It is obvious, though, that the theory can be turned the other way, as is done by Giddings, who says that regeneration "does not reach or affect the germplasm, it cannot be biologically transmitted to subsequent generations; to this extent the Old Adam survives, but each generation, after it is born, can be morally regenerated in some degree" (as quoted by Lane, *op. cit.*, p. 195). A distinguished evolutionist, Dr. Paul Kammerer of Vienna, has lately been in America claiming that he has proved by experiments that acquired characters can be inherited. In the present state of the debate it would be premature to draw important inferences.

(2) It is said that belief in the Fall is incompatible with belief in the extreme antiquity of man. It was the opinion of Dr. B. B. Warfield that "the question of the antiquity of man has of itself no theological significance," and that the question is "a purely scientific one, in which the theologian as such has no concern" (*Princeton Theol. Rev.*, Jan., 1911, pp. 1 and 11). The Bible he claims does not assign a brief span to human existence, and some ten to twenty thousand years is the limit to human existence according to sober scientists. The genealogies in Genesis are regarded as compressed with numerous missing links and so as supplying no grounds for chronological inference. On this view it would take the life span of only a few Methuselahs to fill out the measure of the fifteen or even twenty-five thousand years usually required for the beginnings of the Cro-Magnon race, or *homo sapiens*. It would be more difficult to find any historic residuum in the antediluvian narratives of Genesis if the origin of the human race is placed, as has been suggested, nearer 400,004 B. C. than 4,004. In all the discussion it must be remembered that geological chronology is still in an unsettled state.

(3) On the question of the unity of the human race Dr. Warfield asserts in the article alluded to that "the whole structure of the Bible's teaching, including all that we know as its doctrine of salvation, rests on it and implicates it" (pp. 18, 19). "The unity of the old man in Adam is the postulate of the unity of the new man in Christ" (p. 25). Darwin, in his "Descent of Man," said, that "those naturalists who admit the

principle of evolution . . . will feel, no doubt, that all the races of men are descended from a single primitive stock" (2d ed., p. 176). To admit multiple origin in the case of the races of men might lead to the hypothesis of multiple origins, as advocated by E. Wasmann, to account for the broader differences in the organic world, and this view would be looked upon with suspicion by orthodox evolutionists. Dr. F. G. Crookshank, in his "The Mongol in Our Midst," has proposed the novel theory, based on the evidence of posture, palmistry and other correspondences, that the three human groups of Mongols, Negroes and Whites have each a separate origin, being derived respectively from the orang-utan, the gorilla and the chimpanzee. On Crookshank's theory the line of descent from known animal forms to the human, which most evolutionists believe has never been crossed, proves to have been crossed three times at three different points. It would be strange if evolution, unifying nature, should break up the unity of the human race. As Edward Caird has said, "The divisions between men are as nothing in comparison with the fundamental fact of self-consciousness which unites them all to each other" ("The Evolution of Religion," 1, p. 15). The evolutionist, it appears, is in something of a dilemma. If mankind sprang from a single pair, the origin of this pair becomes a unique or even miraculous event not to be accounted for by natural law; but if multiple origin be assumed for the races of men, then the multiple origin of widely different species and genera may also be postulated.

4. It is sometimes maintained that *the Fall interprets evolution*. The tables are turned when the attempt is made to solve the problems of evolution by assuming a pre-mundane or pre-organic Fall. C. W. Formby, in his "Unveiling of the Fall" (1923), claims that his theory of a pre-organic Fall gives "a clearer and more complete explanation of evolution than any existing" (p. 181), while Canon Peter Green, in "The Problem of Evil" (1920), is convinced "of the need for the acceptance of a pre-mundane fall, as absolutely necessary for any adequate view of physical and moral evil" (p. 133).

Formby holds that a being made in the image of God originally existed in a state of holiness before life began on the earth; that this being, in some way combining in himself all the individual wills now known as men, rebelled against God, and that thus his sin became the sin of all; that the vital impulse, in some way identified with the being who fell, then started upon the career of evolution which was in part a cruel and destructive process, because the vital impulse had become sin-stricken and vitiated at its root, and was also in part a redemptive and restorative process which was completed in the work of Christ. It is held that this theory is the hidden meaning beneath the allegory of Genesis, that it may be read between the lines in Paul, who spoke wisdom among the perfect, that it does justice to the universality and the guilt of sin in man and sheds light upon the pain and strife in the whole evolutionary process, and that in

short it satisfies the demands of both science and theology.

Both Formby and Green, whose exposition is somewhat similar, as we see turn the tables on Tennant and McDowall. Immaturity of the moral instincts is not the cause of sin, but sin is the cause of the immaturity; resistance to the vital impulse is not the cause of sin, for the vital impulse is itself vitiated at its source. This bold and highly speculative doctrine—this “hazardous and desperate guess”—of the extra-temporal or pre-organic origin of sin will scarcely commend itself either to scientific or to theological orthodoxy. It cuts the Gordian knot of the problem of evolution and the Fall, but only to raise more serious difficulties, exegetical and philosophical, of its own.

5. We come to the final possibility that *the Fall excludes evolution*. This attitude is often taken by those who have reacted against the theory of evolution because of its alleged anti-Christian teaching, extravagant claims, faulty logic or lack of convincing proof. They insist that wide-ranging inferences need to be carefully distinguished from experimental facts, and that the theory of evolution in the judgment of leading scientists is in so transitional a state as to afford no secure basis for metaphysical inference or theological construction. If it be insisted that belief in evolution and belief in the Fall exclude each other, the advocate of the Biblical view will not be slow in the present state of the discussion to accept the challenge, believing that no proved fact of science disproves the

Fall, and that the evidence for the Fall in the Bible, in conscience and in the condition of human society is stronger and more convincing than the evidence of descent from brute ancestors. No line of descent and no natural method of descent has yet been discovered leading from the beasts that perish to man as an immortal being. To quote again from Professor More: "In spite of the speculations of centuries we have not advanced a step beyond the noble and dignified description of the creation as imagined by the Hebrew prophet in the book of Genesis. We can dismiss his story of the Garden of Eden as an allegory, but when he stated that man was created out of the dust and that God breathed into him the breath of Life, all was said of that supreme mystery, as an eminent philosopher pointed out to me, which can be said" ("Dogma of Evolution," pp. 242, 243). The prediction may be ventured that for the most reliable information about human origins and the moral history of mankind the thoughts of men will continue to turn to the majestic opening chapters of the Bible long after the hypothetical ape-man has been forgotten.

CHAPTER X
EVOLUTION AND REVELATION

"The very fact that all the nations (except the Jews) have traveled along a line leading to polytheism, and that all have failed to get beyond it, constitutes a presumption that monotheism is not to be reached by the route that leads to polytheism."—FRANK BYRON JEVONS.

"Superstition and magic could not have arisen if the idea of another world than this world of nature had not been deeply imprinted on man's self-consciousness. They themselves are of a later origin, but they presuppose religion, which is inherent in human nature, having its foundation and principle in the creation of man in the image of God. Hence religion is, not only with reference to its origin and essence, but also with reference to its truth and validity, founded in revelation. Without revelation religion sinks back into a pernicious superstition."—HERMAN BAVINCK.

"For my own part, having studied the prophets and the Gospels all my life long and asked myself this crucial question more times than I could enumerate, I can give but one answer. I believe their claim is true. It is a momentous decision morally, and it is momentous no less intellectually, because, if I mistake not, it dominates the intellectual situation."—CHARLES GORE.

X

EVOLUTION AND REVELATION

RELIGIOUS people of all schools are commonly agreed in regarding two propositions as axiomatic: first, that Jesus was the greatest of religious teachers, and second, that God is love. The two propositions practically merge into one, for if Jesus is the greatest of teachers His teaching is to be followed and believed; and in every word and act of His life He taught that God is love.

The evolutionist who believes in the love of God is placed in a peculiar dilemma. He must, in taking a broad view which includes religious history as well as natural history, either give up his favorite maxim that there are "no gaps and no intrusions," "no alien influxes," and "no insertions *ab extra*," or else he must give up his belief in a God of love with its inevitable corollary that He has broken the silence of eternity and revealed His love in some direct and unmistakable manner to His children. In the latter case the highest conception of God that has been entertained by the human mind will have to be abandoned and declension in religion will be the result. Naturalistic evolution, the evolution of no gaps and no intrusions, means the silence of God. He is as helpless as the Tithonus of ancient fable who lost his voice, and, if indeed He exists at all, He is not specially interested in us nor can we be in Him.

If God is personal and if God is love, then the probability that He has spoken to man amounts to practical certainty. On the analogy of human relationships—the only analogy that is applicable to the case—it is incredible that one person should be supremely interested in another and yet never give or attempt to give direct and unmistakable expression of his love by voice or message or gift or sign. If God is love and cannot reveal His love it is a strange inability, and if He does not express His love it is an equally strange indifference. If love is an essential or the most essential attribute of God, how will that love most naturally and fully reveal itself? A noted astronomer, Professor Charles Young, in an eloquent lecture on "God's Glory in the Heavens," used to say that he saw in the heavens evidence of the wisdom, power and majesty of God, but that he found there no evidence of His love. Nor is the love of God unmistakably exhibited in history or general providence. To say that God is love is to say, as Josiah Royce has remarked, that He is, or has been or will be incarnate. The logic of the argument of John, the Apostle of love, cannot be escaped (1 John 4:8-12): "God is love. Herein was the love of God manifested in us, that God hath sent his only begotten Son into the world that we might live through him." If God is love at all, there must be at the very least some personal revelation of the heart of God given to meet the deepest needs of the heart of man. The New Testament teaches that His love was revealed through the life and death of the Word that was made flesh.

The reality of revelation can be denied in two ways: by an agnostic theory of knowledge and by an evolutionary account of the origin of theism which shows it to be an illusion. Herbert Spencer, the philosopher of evolution, as Huxley was its apologist, exemplifies both of these methods. He first proclaimed that God was unknowable and then was compelled to give an account of the way in which a supposed knowledge of God arose. There is, of course, the wise and reverent agnosticism of the book of Job: "Canst thou by searching find out God? Canst thou find out the Almighty unto perfection? It is high as heaven; what canst thou do? Deeper than Sheol; what canst thou know?" But the agnosticism of Spencer was of a different kind. Under the guise of humility it covered an overweening intellectual pride. The criticism has been made a hundred times that Spencer had to know a great deal about God before he could proclaim Him to be unknowable. He must, for instance, find out that God was not personal before he could be sure that He could not reveal Himself to man. J. G. Schurman, not too severely, speaks of the "farce of nescience playing at omniscience in setting the bounds of science" ("Agnosticism and Religion," 1896, p. 100). Agnosticism is a polite way of saying that God cannot speak in the works of nature, or in the mind and conscience of man, or more directly and clearly in the prophets and in His Son.

Many theists today hold that ethical monotheism is a development from lower and less pure forms of belief. If astronomy developed from astrology why

could not the highest and purest conception of God and the surest knowledge of God have arisen from magic or ancestor worship or belief in ghosts, or animism or from social taboos? It is significant, however, that the leading, and perhaps the most logical, thinkers who give an evolutionary account of religion treat it as a delusion. It is natural to suppose that if belief in God is evolved out of something lower it will in turn develop into something higher which will supercede it. From the earliest to the latest popular exponents of the evolution of religion, we see the same principle at work. Belief in God is regarded as an illusion, the only question being as to just how the illusion arose. Comte, tracing religion through the stages of fetishism, polytheism and monotheism, teaches that it is superceded by the metaphysical and finally by the positive phases of thought. Sir J. G. Frazer in "The Golden Bough" would show how mankind progresses from magic to religion and then from religion to science. According to Spencer, the first stage in the development of religion is ancestor worship, while the final stage is the worship of the Unknowable. Durkheim would merge the religious in the social, while Reinach regards religion as "a sum of scruples which impede the free exercise of our faculties" ("Orpheus," E. T., p. 3).

When Andrew Lang in his "Making of Religion" maintained that savages of the most "primitive" type of culture have a clear idea of a High God or Supreme Spirit who demanded righteous conduct, he was a voice crying in the wilderness. The theory that held the

field was that all higher forms of religion are derived from lower forms, and that truly primitive religion was the lowest of all. Early man, whose religion was supposed to be nearest to that of the lowest savages, could have had no conception of God, for this was the result of a long development. As Darwin said: "The idea of a universal and beneficent Creator does not seem to arise in the mind of man, until he has been elevated by long-continued culture" ("Descent of Man," p. 613).

In recent years evidence has been coming in from historians of religion, from anthropologists, from psychologists, from missionaries and travelers which has shaken the evolutionary view and has even turned the scales in favor of the opposite theory. Thus W. Warde Fowler in his "Roman Ideas of Deity," 1914, refers to the "evidence for the idea of one great deity surviving among uncultured or half-cultivated peoples." Speaking of F. B. Jevons, he says: "If I understand him rightly, all these later systems (polydæmonism and fetishism) which I have called the growth that chokes the idea of the Supreme, imply a belief in some divine personality. Flinders Petrie again, fresh from the enormous polytheism of ancient Egypt, insists that monotheism is the first stage traceable in theology, and uses almost the same language as Lang about it. So, too, Count Goblet d'Alviella, whose knowledge of religions is vast, seems in his Hibbert Lectures disposed to trace the Indian and Greek religious philosophy which developed the later ideas of monotheism, back to an age before the full development of polytheism" (pp. 30 and 35).

Similarly J. H. Leuba in his "A Psychological Study of Religion," 1912, maintains that "the idea of a mighty maker of things may safely be attributed to men as low in intelligence as are the lowest tribes now extant, for it appears very early in the child" (p. 96). Of the old opinion that "even the lowest savage entertains a belief in a Supreme Being, however dimly conceived and little revered," he says that "recent anthropological researches furnish sufficient evidence to warrant a return to this view. It seems now established that in every part of Australia, except perhaps among the Arunta, a tribe in the central regions, there is a belief in an All-Father, who perhaps is always regarded as a creator. In Africa there also exists, it seems, a general belief in a great God conceived as creator" (p. 100).

Travelers and missionaries, as well as scientific observers, vouch for a belief among savages in a higher power with the simultaneous worship of lower powers. In the hearing of the present writer reputable missionaries have testified to such an underlying theistic belief among uncivilized people. A missionary from Africa said that the natives confessed that they believed in a Supreme Spirit, but when asked why they did not worship Him declared that He had left them and was the white man's God. A missionary from Alaska told how the natives said that they heard the voice of the Great Spirit in the wind and storm but that He was far off and they could not see Him and so worshiped their totem poles.

A scientifically trained missionary who has had a

rich experience among savages, J. Warneck, was led by the observed facts to overcome a previous prejudice, and as quoted by Chamberlain he writes: "That this pure idea of God could be the result of a long development in the sense that the peoples begin with animistic conceptions, under the impulses of fear and the worship of animals and ancestors and from that advance to nature-worship from which the gods arise, and that thereupon through a rich polytheism the gradually refined conception of One God is elaborated (so runs the well-known orthodox doctrine)—this hypothesis contradicts the pictures which every one who is intimate with actual heathenism and does not see it through spectacles, wins from it. The idea of God does not lie on the road of development from the worship of spirits, it contradicts this development. It is an alien element in the world of animistic conceptions. It stands in opposition to the nature deities" (Quoted from *Die Lebenskräfte des Evangeliums*, in *Mensch und Gott*, 1921, p. 25).

Travelers tell the same story. "I was informed by a great traveler who has done much scientific work in the islands of the Pacific and of the Indian Ocean, that he had never come across a tribe which did not entertain a belief in some Big God or Great Spirit who made the whole world, even though they rarely worshiped Him, because He seemed so far away, and especially because He was the God of other tribes as well, while their own gods were very near and wanted constant attention, and moreover were more likely to help them in war" (Stewart A. McDowall, "Evolution

and the Need of the Atonement," 1912, p. 68). As to the reason why the high God, among rude peoples, is not more often the object of worship, Leuba's explanation does not differ in essence from that of writers like Andrew Lang and Sir W. M. Ramsay, or even from that of Paul in the first chapter of Romans: "Because His very greatness and remoteness stand as an obstacle in the way of practical relations, while ordinary spirits and great ancestors, more familiar and closer to man than a Maker, call forth more readily those methods of propitiation and worship constituting the lowest religious expression" (*op. cit.*, p. 106). If the higher idea had been derived from the lower, the proportionate importance of the two in worship would naturally be reversed.

While the matter is still under discussion, the evolutionists are becoming less dogmatic and advocates of a primitive endowment in man leading him to belief in God are becoming more bold. A comparison of two recent writers will show the present state of the question. A fair and temperate statement by an evolutionist, E. Washburn Hopkins, in his "Origin and Evolution of Religion," 1923, shows the inadequacy of the current evolutionary theories in accounting for the origin of religion. He criticizes the English theory of animism (Tylor and Spencer) because in fact not every natural object is regarded as being alive and having a spirit within it. He rejects the German theory of naturalism (Max Müller) because not every object is personified. Frazer's theory that man tries to control nature by magic and then moves from magic

to prayer is said to be open to Durkheim's objection that magic is the child of religion and not vice versa. Durkheim's own theory—the French theory—of totemism, the totem being a symbol of the group and religion being social in origin, is criticized because this would make the mind of the group “overwhelmingly coercive.” “The French theory does not hesitate to insist that man does not think at all as an individual; there is no such thing as an individual mentality and consequently all religious thought is social” (p. 7). Hopkins himself emphasizes the complexity of human nature and the influence of great personalities in accounting for the varieties of religion. He admits that “the psychological processes of primitive man cannot be known” (p. 2), but clings to the evolutionary view, more, it seems, as a deduction from the general theory of evolution than as an induction from observed facts: “Since man has developed from a state even lower than savagery and was once intellectually a mere animal, it is reasonable to attribute to him in that state no more religious consciousness than is possessed by an animal” (p. 1).

The other side of the question is maintained by Houston Stewart Chamberlain in his *Mensch und Gott*, 1921. He says that “the researches of the last half century—contrary to the hitherto almost universal supposition—have shown beyond question that the conception of a Deity, and even of One who is unitary, conceivable (monotheistic), invisible, omnipresent, is lacking in no tribe of the earth. . . . All developments of polytheism, all over-subtle elaboration

of confessions (dogmas), all ritualistic aberrations are evidence of later culture and at most leave the conception of one original God untouched, even though this be pushed back behind the crowd of later conceptions" (p. 2). Referring to the works of Andrew Lang ("The Making of Religion"), P. W. Schmidt (*Der Ursprung der Gottesidee*) and of Leopold van Schroeder (*Arische Religion*, Band I), Chamberlain says: "Under every sky, in North and South as on the equator, in Asia and America as in Australia, Oceania and Africa, everywhere, where the human race exists, there can be found the conception of a supreme Being—the conception of God—likened, in Lang's phrase, to 'a magnified, supernatural man.' Significant for this supreme Being is it that He is always represented as good, often as the guardian of virtue who teaches (so for example among the admittedly degraded Australian Negroes) chastity, sympathy, unselfishness, and fidelity to one's plighted word. Not less significant is, however, the small place which this Being receives in the public worship, since He always remains in the dark background of consciousness, while apparitions of spirits and demons and even of gods display themselves in the foreground of life" (p. 23).

The fact of this all-pervading conception of God was late in being discovered by ethnologists and missionaries "because uncivilized men allowed it to remain unmentioned, partly from reserve, partly from dull indifference" (p. 2). It was slow in gaining recognition in scientific circles, Chamberlain thinks, be-

cause of the prejudices of our scientists and dogmatic evolutionists—with Herbert Spencer at their head.

In its application to the field of the science and history of religion, we find that evolution is a dogma unsupported by the facts and in the judgment of those who are most familiar at first hand with "primitive" religion at variance with them. Religious history in general is quite susceptible of the Pauline interpretation in the first chapter of Romans (vs. 18 to 25): that there has been a self-disclosure of God through nature to the mind and conscience of men—"God manifested it unto them"; and that men, instead of responding by gratitude and obedience to the natural revelation, have by pride and self-will turned away from the light and "exchanged the truth of God for a lie, and worshiped and served the creature rather than the Creator."

We can only glance at the application of evolution to the field of "revealed" religion in the Old Testament. The monotheism of the Old Testament comes to a climax in the opening words of Genesis, in Deuteronomy and in the later chapters of Isaiah. "In the beginning God created the heavens and the earth. . . . And God said, Let there be light: and there was light" (Gen. 1: 1, 3); "See now that I, even I, am he, and there is no god with me: I kill, and I make alive; I wound, and I heal; and there is none that can deliver out of my hand" (Deut. 32: 39); "Thus saith Jehovah that created the heavens, the God that formed the earth and made it, that established it and created it not a waste, that formed it to be inhabited: I am

Jehovah; and there is none else" (Isa. 45:18, and cf. vs. 5, 6, 12, 14, 21 and 22). The first chapter of Genesis has well been called "the magna charta of ethical monotheism, a bulwark against the polytheism and the pantheism of the ancient world." Alluding to the repeated assertions of the sole and transcendent existence of God scattered through the later chapters of Isaiah, George Adam Smith says we have here a Monotheism so absolute that "modern critical philosophy, in surveying the history of religion, can find for it no rival among the faiths of the world. . . . It is already as lofty an idea of the unity and sovereignty of God, as the thoughts of man can follow" ("Isaiah," vol. ii, p. 236).

What then is the source of this high monotheism of the prophets? The source in the opinion of the prophets themselves was the direct and personal revelation made by God, it may be in various ways, to their own spirits. The evolutionary view is that it was the result of a gradual attainment by man of a higher and purer religious faith, only reached after the stages of animism and polytheism had been traversed. In the evolutionary view man reaches up to God, perhaps only to find Him a delusion; in the Biblical view God reaches down to man.

The progress of revelation in the Old Testament or the Bible as a whole is often pointed out as a proof or striking illustration of evolution. There is a form of teaching adapted to the childhood of the race, and then in the fullness of time God sends forth His Son. In divers portions and manners God spoke to the fa-

thers in the prophets, but at last speaks through His Son. There is doubtless a progressive revelation in the Old and New Testaments, but as the initiative in both cases comes from God, if we are to believe the Biblical writers, we are in the sphere of education from without rather than of evolution from within.

The attempt is sometimes made to account for the prophetic monotheism by the genius of the Jewish people, by the general movement of religious thought of the time, or by the influence of the unconscious. The statement of Renan that the Semitic people had a genius for monotheism is now discredited. The records that we have all show that the people as a whole had rather a genius for the worship of Baal and other heathen deities and for idolatry. In fact it took the forty years of wandering in the wilderness, the centuries of divine judgments and then the captivity in Babylon before the people were cured of idolatry. Often in Israel's history we have examples of monotheism degenerating into polytheism, but really no example in the history of Israel or of other peoples of polytheism developing naturally into monotheism. The natural development is into a pantheism of the Stoic sort. As Bavinck has pointed out: "We have no historical testimony to the development of polytheism into pure monotheism; when polytheism comes no longer to satisfy the intellectual circles, it is remodelled into pantheism, which has in common with polytheism the 'nature-character' of the godhead, and dissolves the multitude of nature-gods into one nature-godhead" ("The Philosophy of Revelation," 1909, p. 185).

In his "Outline of History," H. G. Wells speaks of the prophetic teaching of a God who lived in a temple not made with hands, eternal in the heavens, and adds: "There can be little doubt of a great body of such thought and utterance in Babylonia, Egypt, and throughout the Semitic east. The prophetic books of the Bible can be but specimens of the prophesyings of that time" (3d ed., 1923, p. 234). That monotheism was "in the air" at that special time and that there was a development in this direction in other nations parallel to that in Israel is an assumption in support of which no facts are adduced.

The evolutionary critic of the Graf-Wellhausen school reconstructs both the history and the religion of the Jews. He must assume in order to reconstruct the history that the writings which teach a high monotheism, such as the Pentateuch, and the Psalms, must have been later than the time of Amos and Hosea; but he must assume also, in order to support the evolution theory that these writings contain in themselves survivals of a primitive animism and traces of a gross polytheism. The transition to monotheism must not be too abrupt and so it is held that the polemic against idolatry found in numerous passages in Amos and Hosea (such as "Ephraim is joined to idols," Hosea 4:17) has been injected later into the writings of these prophets (see "Journal of Biblical Literature," vol. xliii, 1924, p. 232).

In no other literature except the Hebrew has this elaborate process of decomposing into minute fragments and then putting together again been carried

out. The histories of Herodotus, who has been called "the father of lies," have never been subjected to so drastic a treatment in the effort to separate truth from falsehood. The tendency today in Homeric criticism is to attribute the substance of the Iliad and that of the Odyssey each to a single mind, or both to a single mind. So little is known of the personality of Shakespeare that his dramas would furnish a fertile field for the divisive critic, who would assign different plays or portions of plays to different authors, but the only serious attempt to overthrow tradition is the Baconian hypothesis which attributes the Shakespearean dramas and the *Novum Organum* and *Essays* to the single mind of Francis Bacon.

Of the attempt to explain the teaching of the prophets psychologically and to derive them from purely human sources in the subliminal or unconscious mind, Bishop Gore well says that we find in this region no materials for the spiritual content of the prophetic teaching. The origin of the prophet's message is not to be sought in an uprush from the subconscious but rather in "a downrush from the superconscious" ("Belief in God," p. 106). The prophetic monotheism remains a unique thing in the history of religion. There is nothing like it even in the religious history of Greece, although gifted spirits like Plato and the Neo-Platonists caught glimpses of a lofty monotheism. Plato in his *Republic* condemns the grossness of the popular polytheism, but the Socrates both of Plato and of Xenophon uses the terms "God" and "Gods" almost interchangeably, and there is no indignant re-

pudiation of idolatry as degrading to man and as insulting to God. Harnack has a high opinion of the lofty spirituality of the Neo-Platonists but he admits that "Christianity really did away with polytheism, whereas the Neo-Platonic philosophy of Porphyry did not possess the courage for that: herein lay the greatest difference. This religious philosophy lacked the power of exclusiveness, and of that lack it died" ("Hibbert Journal," Oct., 1911, p. 81).

The victory of evolution in the field of religion appeared at one time to be complete and easily won, but the victory has been short-lived. The evolution of religion, if it means anything more than the history of its multiple forms and changes, breaks down at the two crucial points of the origin of religion and its climax in the ethical monotheism of the prophets. Neither the history of "natural religion" nor that of revealed religion can be forced into the evolutionary mold. There is a growing body of evidence to show that belief in a Supreme Spirit who demands right conduct is the prius and presupposition of nature-worship and polytheism rather than their result. The most significant feature of the history of religion, the teaching of the prophets and of Jesus, is without explanation on evolutionary grounds, and requires the explanation which the prophets themselves, followed by the New Testament writers, have given, that God has revealed Himself in direct and preferential action, that God spoke to the fathers through the prophets, and that holy men of old spoke as they were moved by the Holy Spirit.

CHAPTER XI
EVOLUTION AND MIRACLE

"It is not upon any *a priori* considerations that objections either to the supposed efficacy of prayer or to the supposed occurrences of miracles can be based, and to my mind the fatal objection to both these suppositions is the inadequacy of the evidence to prove any given case of such occurrence which has been adduced."—**T. H. HUXLEY.**

"Historical records tells us of a Divine Incarnation. We may consider it freely on historical grounds. We are not debarred from contemplating such a thing by anything that science has to say to the contrary. Science does not speak directly on the subject."—**SIR OLIVER LODGE.**

"If the aversion to miracles is simply an expression of belief in a purely mechanical self-contained world, then the human spirit must hail them in defence of its own liberty. For if God be so bound by His laws that initiative is no longer His, much more are we. And if He cannot intervene in the physical realm, still less can He do so in the spiritual, for the two stand in close relationship. The miracle is the sign of the Divine freedom."—**JAMES Y. SIMPSON.**

XI

EVOLUTION AND MIRACLE

THE intrusion of the supernatural—if the more direct and personal activity of God in His own world be called an intrusion—is made necessary by the fact of sin. Miracle is the intervention of God in His own world to counteract by His saving activity the destructive effects of sin.

Evolution in one of its aspects is an attempt to keep God at a distance. In so far as it presumes to teach metaphysical and religious doctrine, it may be called an intellectual Tower of Babel, the product of human pride, erected in the attempt of the human mind to get along in its theorizing activities without God. If God is admitted at all, He is relegated to an unimportant position, remote in time and impotent in influence, so that He becomes practically, so far as the course of events is concerned, a negligible quantity. If admitted into the scheme of nature at all, He is limited in His activity to the remotest past. It has been said that “by grace of the evolutionist the Almighty is allowed to come forth, create, give life, set in motion, and look on the scene, but then He must retire, and leave the whole to nature and its laws.” If by courtesy He is allowed to assume the rôle of a spiritual underpinning, this underpinning is never by any possibility permitted to break through or appear

on the surface. The philosophy of evolution, operating with the concept of continuity, eventuates in a deistic or pantheistic naturalism, and as has been truly said, "Deism banishes God from the universe, but all forms of Pantheism imprison Him in it" (A. B. Davidson).

The immediate action of God is never allowed to appear in the world of time and sense—that is in the actual world. God is a partner with nature (if not identical with it) but He is a sleeping partner. He lives, but as Carlyle complained to Froude in a moment of pessimism, "He does nothing." God may indeed be allowed to act everywhere provided always that He act nowhere in any way that would make a difference at that point. He is excluded from acting in any direct way in the field of history. Even in the field of religious experience the evolutionist would place God in a straight-jacket. "In the psychology of religious experience creative miracles do not occur." God is not to be thought of, much less worshiped apart from the world. "Of God in isolation from the world," says Lloyd Morgan in his "Emergent Evolution," 1923, "I can form no adequate conception" (p. 299). What is really admired or worshiped is the All, the absolute inclusion or unity, with the consequent blurring of ethical distinctions. As Bosanquet says: "The universe is the magnificent theater of all the wealth of life, and good and evil are within it" ("The Value and Destiny of the Individual," 1913, p. 312). To a monistic type of thought the idea of a transcendent Creator or moral Governor, or of a hearer and

answerer of prayer, or of a God who can raise the dead, or even the Kantian postulate of a God who will equate happiness and goodness, is of course unacceptable. As Bosanquet says again: "For our straightforward reason and humanity today, the sheer existence of this external person has but little interest. What we care for is the religious consciousness" (p. 22).

A distinguished evolutionist has tried to equate Christianity with the religion of evolution, but Christianity shorn of its miraculous element loses much in the process. It must contract its horizon so as to limit its view to the present life. "The religion of evolution deals with this world rather than with the next. It prays 'Thy kingdom come, thy will be done on earth.' It seeks to build here and now 'The City of God'" (E. G. Conklin, "The Direction of Human Evolution," new ed., 1923, p. 246). Christianity reduced to the meager dimensions of the religion of evolution must eliminate the supernatural all along the line. "Almost every religion claims to have had a supernatural origin, to have been made known to men by supernatural revelation, to be attested by supernatural miracles, to influence the lives of men in a supernatural manner and to lead to supernatural rewards or punishments in a future supernatural life" (p. 185).

But what has evolution to do with miracles, anyway? Why not say with Professor Lane: "With miracles, therefore, evolution has nothing to do"? ("Evolution and Christian Faith," p. 198.) It is be-

cause evolution as set forth by its leading exponents has already passed from the field of biological theory and has become a philosophy and a religion. This Professor Conklin very frankly shows when he speaks of the "religion of evolution" and contrasts it with supernatural Christianity. Professor Conklin as an evolutionist has entered the field of religious polemic. He has become in fact an opponent of historic Christianity, and he uses the prestige of his scientific reputation and the resources of his rhetoric to discredit the trustworthiness of the Gospels and the historic facts upon which, in the judgment of the devout Christian, the hope of the world rests. He can scarcely complain therefore when the Christian apologist questions the philosophy of naturalism which he presupposes and examines the scientific basis of his ambitious religion of evolution. If the evolutionist can give reasons for doubting the miracles, the theologian certainly can give reasons for doubting evolution. If Professor Conklin is competent to discuss miracles, and to say that "more and more the religious world is turning away from the supernatural aspects of the miracles to the moral lessons which they convey" (*op. cit.*, p. 201), the theologian is competent to discuss evolution, and to say that more and more intelligent people are turning away from evolution as a pretentious assumption unsupported by facts.

Evolution as set forth in its authoritative documents and Christianity as set forth in its authoritative documents, the Gospels, inevitably clash over the question of miracle. It is no longer a conflict in the

sphere of the relation between religion and science. Both parties are teaching a religion and the two religions, the religion of evolution and the religion of Christianity, confront each other, and both cannot hold the field. One party contends that there is an impersonal order of nature which, whether beneficent or not, cannot be broken. Miracles do not happen and have not happened. The other party sees the essence of religion in the belief in a God who made heaven and earth, who delivered His people historically by a mighty hand and a stretched out arm, who creates in the sinner a clean heart and a right spirit, who is the hearer and answerer of prayer, and watches over His children by a special providence, and who has based the salvation of the world upon a supernatural historical process in the incarnation, atoning death and resurrection of Jesus Christ. Miracle, in this view, is not only a proof of revelation but an integral part of redemption. Miraculous power and redemptive power are inseparable. Only a God who can raise the dead can save men from the death of trespasses and sins. Christianity without miracle is Christianity with religion left out.

It has often been said, and is said by Professor Conklin, that the supernatural has become a "stumbling-block" (p. 198) to religion. As Rousseau said: "*Otez les miracles de l'Évangile, et toute la terre est aux pieds de Jésus Christ.*" Christianity has always been tempted to surrender its distinctive character in deference to the spirit of the age from the time when the scribes and elders said, "Let him come down from

the cross, and we will believe on him." From the very conception of miracles they are, if they happened, at least an exception to the general laws of nature (not necessarily a transgression of them). They belong to the field of history rather than to that of natural science. It is the evolutionary scientists who have forced the question of miracle again to the forefront of discussion. If evolution, as expounded by leading authorities, is true, the miracles are mythical; while if the Christianity of the Gospels is true, evolution of the popular type is disproved. We see again that the question of the miracles remains one of the great watersheds of human thought.

Take, for example, one miracle related in three of our Gospels, the stilling of the tempest. We recall the well-known words of a liberal theologian, Harnack: "We are firmly convinced that what happens in space and time is subject to the general laws of nature, and that in this sense, as an interruption of the order of Nature, there can be no such thing as miracle. . . . Miracles, it is true, do not happen; but of the marvelous and the inexplicable there is plenty. . . . That a storm was quieted by a word, we do not believe, and we shall never again believe" ("What is Christianity," 2d ed. rev., pp. 28, 29, 30). If we adopt a pantheizing or semi-deistic naturalism, we must reject the truth of the narrative of the stilling of the tempest. On the other hand if we accept the truth of the narrative on historical grounds, the question of an absolutely continuous and uniformitarian evolution is settled in the negative. If the storm was quieted by the word

and command of Jesus, then there has been at least at this point a break, intrusion, intervention, spiritual influx, or interruption of the order of nature, changing what would have been otherwise, without a supernatural occurrence, the course of events. The question is crucial for the evolutionist because if there has been such an intervention at one point in the course of things there could be similar influxes of creative or controlling power, outside of the operation of the general laws of nature, at other points, say at the beginnings of life, of man, or of species, the question at each point being decided by the evidence and not by an *a priori* philosophy of continuity.

If Jesus rebuked the winds and the waves and they obeyed Him, He rebuked also all anti-theistic theories of the universe, and rebuked as well an evolutionism which allies itself with these theories. He rebuked materialism, showing that personality, purpose and intelligence, or in short mind is in control of the world of matter. Mind can no longer be regarded, as it is by the materialist or mechanist, as a sort of dead-head tramp stealing a ride on the freight train of mechanism. He rebuked the view of the world which relegates the activity of God to the remote past alone; and rebuked as well the theory which regards God as immanent only in the general laws of nature.

It is often said that the world of description with which science deals and the world of interpretation or values with which religion deals are incommensurate, but the two meet in the question of miracle, defined as an event in the physical world due to the

immediate power of God, and historically attested in the Gospel narratives. The question of miracle comes to a head in the resurrection of Christ. According to Eucken the acceptance of this event "would mean an overthrow of the total order of nature" ("The Truth of Religion," E. T., 1913, p. 528), and according to the Apostle Paul its rejection would mean the overthrow of the total order of grace (1 Cor. 15:13-19). As recorded in the Gospels, it was an event that occurred not in the imagination of the disciples but on the broad field of history, under definite historical conditions, with abundant historical attestation and with definite and world-wide historical effects. This is not the place to discuss the credibility of the Gospel miracles but it must be pointed out that if evolution means mechanism with Weismann, or materialism with Hæckel, or an identity of mind and body with Thomson, or naturalism with Conklin, the issue is sharply joined in the historical accounts of the miracles and resurrection of Christ.

Perhaps Christology is inseparably bound up with belief in miracles but theism can get along just as well or better without them. Is not the universe, the living garment of God, the one great miracle? And are not exceptional miracles, such as those recorded in the Gospels, a burden to faith in a scientific age, and a burden too grievous to be borne? The question is brought to the foreground by an able defender of theistic faith, himself an evolutionist, Bishop Gore. In a powerful argument, Bishop Gore, in his "Belief in God," reviews the spirit of continental criticism

which not only discards the miracles "but the whole conception of a supernatural incoming of God into human life which had sought to extrude Him, and into nature where men had sought to forget Him" (p. 221). The miracles of the Gospels are vital not only to our thought of Christ but to our conception of God. "Our thoughts are in the main directed to the nature of God as transcendent Creator, under whose hands nature is plastic and must fulfill all His will" (p. 245). He regards the question of miracle as practically that of the freedom of God in His world, and so brings it into closest connection with the problem of human free-will. He thinks that "the question of the reality of moral freedom . . . and the question of the credibility of miracles are at bottom one and the same question" (p. 234). In miracle God does not violate the deeper order of nature but "He innovates it is true, upon the normal physical order, but solely in the interest of the deeper order and purpose of the world. Miracle is, from this point of view, God's protest against the monstrous disorder of sin. It is God the Creator recreating what man has defaced" (p. 239). Bishop Gore seems to be warning us that the interests of belief in miracles and of belief in a sovereign and holy God are bound up together; and that to give up miracles is inevitably not only to loosen our hold upon the freedom of God in His world and to that extent upon His personality, but also to obscure our vision of His holiness. Miracle is the reaction of the righteous and loving will of God to the perversion of the freedom of man by sin. To

deny miracles is to deny transcendence in the sense of both power and holiness, and theism will gravitate to the higher pantheism, and this in turn to the lower pantheism, which can see no dominant righteous order in the universe.

One criticism might be made upon Bishop Gore's exposition. The conception of free-will is fundamental in his thinking. Upon it is based his view of the independence of man over against nature, and of God's transcendence over the universe. "If I am not certain of free choice," he says, "I am certain of nothing" (pp. 141, 142). His thought seems to be that the certainty of moral freedom is greater than can be the certainty that attaches to any theory in science, such as mechanism or evolution. But whence comes this moral freedom? Prevaingly and in numerous passages Bishop Gore speaks the language of creationism, that God created free beings, that He created finite personalities, that the Creator of all "has made man a free being, destined for personal immortality" (p. 145). In one passage, however, he yields to the current evolutionism so far as to say: "We shall not, if we are wise, lay stress on the gaps in the scientific story of creation, or build on the conviction that living matter could not have been evolved out of what had no life, or rationality out of the animal mind" (p. 58). But how without gaps or special creation could a free and immortal being, made in the image of God, have been evolved from the animal? "Creative evolution" might accomplish the miracle, because owing to the ambiguity of the terms it might mean creation one

minute and evolution the next; but the transition would be impossible for the current theory which sees in morality a development from animal impulse and holds that man differs from the animal in his endowments only in degree. Descartes speaks of three tremendous miracles—*rem ex nihilo, liberum arbitrium, et hominem Deum*. The freedom of man, according to Bishop Gore, comes from God, and its extension to God “opens the door to the possibility of miraculous action” (p. 288). The tension between this view of freedom and that which derives it from the animal without gaps and by ordinary generation is apparent. If miracle and freedom, as Gore would have it, stand or fall together, the one cannot be supernatural and the other merely “natural” in origin.

The miracles of the Gospels attested by abundant historical evidence continue to witness to a personal God and to His transcendence, His power, His holiness, and His grace. The Gospel miracles stand as a bulwark against the irreligion of a mechanical universe from which God is excluded and against the moral indifference of a pantheistic universe with which God is identified; and they are a bulwark as well against that popular form of naturalism which now goes under the name of the religion of evolution.

CHAPTER XII
CHRIST AND EVOLUTION

"Science has nothing to do with Christ."—DARWIN.

"All things are under One. One Spirit, His
Who wore the platted thorns with bleeding brows,
Rules universal Nature." —COWPER.

"Morality He identified with obedience to Himself. Men's acceptance by God He made dependent on their acceptance of His claims and gifts. He announced the forgiveness of sins absolutely, yet connected it with His own death. He has given the world its highest idea of God, yet He made Himself one with God."—GEORGE ADAM SMITH.

"If the divinity of Christ be admitted, both He and His origin are at once removed entirely from the field of operation for evolution. Evolution is a law of nature; on the hypothesis of His relationship to the Godhead as set forth in the New Testament Scriptures, the Christ could not, in the usual sense of the term, be a part of nature. The Creator must have existed before the thing created, and in the Gospel according to John we are expressly told: 'All things were made by him; and without him was not anything made that was made.' Evolution therefore could have had no part in the production of a divine Christ. There is no precedent in nature, so far as we know, for the incarnation; it can only be accepted by the believer as a unique event; it is not to the discredit of the doctrine of evolution that it cannot account for Him."—H. H. LANE,

XII

CHRIST AND EVOLUTION

THE apparent conflict between science and religion is due to the fact that science postulates a reign of law while religion postulates a reign of love. Science says that all things work together while religion says that all things work together for good to them that love God. Science can only deal with the general, the routine, the customary, the mechanical, while religion deals with the unique, the exceptional, the preferential and the personal. Experience includes both realms so that the standpoint of both science and religion is partial and not comprehensive. The temptation of the scientist is to stretch all experience upon the Procrustean bed of the general and the mechanical, thus giving us an impoverished and distorted view of existence, while the temptation of the religious thinker is to regard as exceptional and unique even those phenomena which may properly be referred to general law.

Those aspects of existence with which science and religion respectively deal are not conflicting but complementary. The majestic sweep of general law is not an ultimate and self-existent or self-explanatory fact. Whence these laws, such as that of gravitation pervading all knowable space? They cannot be the result of a chance clash of atoms, or a "molecular

plebiscite." Unless we accept them as "given," that is, stop thinking about them, they can only be referred to the enactment or decree of a personal will. The personal aspect of existence is deeper and therefore more ultimate than the mechanical. But on the other hand the personal or spiritual-moral aspect of the universe requires the mechanical as the theater of its activity. Personal freedom can live and breathe only in a fixed or determined atmosphere. The moral drama of human life must have a stage-setting that is fixed and can be counted on, and it can only be enacted in the environment of a mechanical world.

If the story that evolution attempts to tell be taken at its face value, man, the final term of the age-long process, is also the intended term (if the process means anything) and as such is the key to the interpretation of the whole. We find then in personality, whether we start with general law, with the evolutionary process, or with the convictions of religion, the category which is most inclusive and luminous in the explanation of the world. The evidence of the personal and preferential becomes more and more prominent as the process develops. There is first the inorganic realm, the home of the mechanical and the uniform. Then rising out of the inorganic there is the differentiation and infinite variety of the vegetable and animal worlds; and as we have seen there is no accepted or acceptable explanation of specific variety—no answer to the question, Who made thee to differ?—unless this be found in theistic terms of Purpose and Power. At last in the appearance of man the

greatest gap is opened up, and the universe is dichotomized into the human and the sub-human. No comparison of man with animal, no juggling with the terms of ape-man and man-ape based on the slenderest objective evidence, has been able to bridge this gulf. Here by way of eminence we see capacities and endowments which, however transmitted, find their analogue and their ultimate cause in a Creative Will and in the attributes of God in whose image man was made. The poets who with anointed vision have seen most deeply into nature and human life steadfastly refuse to accept the naturalistic account of the origin of man, even of the individual man. He comes into the world trailing clouds of glory from God who is his home; he comes from out the boundless deep; he comes from the spiritual world within or beyond the world we see, and is the main miracle of existence with power on himself and on the world. Even the biologist who has done most of late to interpret evolution in terms of a naturalistic philosophy has confessed that "the development of a human being, of a personality, from a germ cell seems to me the climax of all wonders, greater even than that involved in the evolution of a species or the making of a world" (E. G. Conklin, "Heredity and Responsibility," *Science*, Jan. 10, 1913). If science is unable to account by natural factors for the origin of a single human individual it cannot *a fortiori* account for the origin of the whole human race.

The earliest man of whom we have unmistakable evidence in skeletal remains believed in a future life,

and the rudest savage has some conception of a Supreme Being. The religious history of men is the search for God, a feeling after God if haply they may find Him. Within a certain race, there is evidence that a special revelation—an answer to the longings of men—was made, ultimately designed to become universal. God spoke unmistakably, but in divers portions and manners, to the fathers in the prophets, and at last in the fullness of time in fullness of revelation of His grace and truth in His Son, who was in a pre-eminent sense the Word. He came with full credentials, speaking words of grace and of eternal life, and performing wonderful works of mercy and power. On the field of history He was declared to be the Son of God with power by the resurrection from the dead. In His best authenticated words He placed Himself in the center of the world's religious life, and increasing multitudes of men look to Him and His cross with reverence and gratitude, and with implicit trust place their interests for time and eternity in His hands.

The evolutionist who exalts his theory into a philosophy of the universe must perforce deal with the outstanding fact of Jesus Christ, and answer the question, "What think ye of Christ?" Two answers are possible. The evolutionist may, with Professor Lane, accept the doctrine of the church, identifying Jesus Christ with the eternal Word and Creator of all things, thus regarding Him as the ruler of nature and all her laws, including the law of evolution; or the evolutionist may regard Jesus as a product of evolution and subject like all other facts of natural and

human history to its laws. In the former case the incarnation must be regarded as not only a unique event but as the central fact in the religious history of mankind. To use an expression of Bishop Gore, it dominates the intellectual situation. A uniformitarian philosophy or a philosophy of immanence can no longer be held. The acceptance of the incarnation, means a view both of God and man profoundly different from that of evolutionism. It means that God can come and has come into human history in a special and supernatural manner; and it means that man instead of being of the same kind as the brute is akin to God, though differing from Him in an infinite degree. To admit that God has spoken through the Word is to admit that He can speak and indeed has spoken through the prophets. To admit the supernatural in the incarnation is to accept the supernatural in the ministry, atoning death and resurrection of Christ. To admit that in the fullness of time God sent forth His Son is to open the way for the acceptance on suitable evidence of the special exercise of creative power at the critical points of human and of natural history. Such a view would not be inconsistent with the admission of biological evolution or transformism within a limited sphere, provided that proof was forthcoming that such transformation has taken place by some natural knowable method, but evolutionism as a closed system of naturalism would of course be abandoned.

The other alternative is to make Jesus Christ and the religion that He founded the product of evolution.

C. A. Beckwith, professor of Christian theology, shows in his "Idea of God" (1922) what a profound transformation the application of evolutionary principles will make in the doctrines of Christianity and even of theism. Professor Beckwith teaches that God is not conscious in the ordinary sense, for "self-consciousness is a late comer in the evolution of reality" (p. 142). As social conditions change there must be a change in the idea of God. "No idea of God which arises under historical conditions is permanently valid for the rational and religious consciousness" (p. 9). The idea of God held by Moses, or Paul, or even by Jesus cannot be final, for "while each of these ideas of God was in turn adequate for the particular period in which it appeared, it became progressively insufficient for later conditions" (p. 9). Professor Beckwith is less certain than Socrates or Plato of a future life, for, in speaking of the desire for continued life after death, he says that "whether we shall realize this in prolonged individual consciousness or only 'join the choir invisible,' experience here below offers us no lighted torch" (p. 334).

It is interesting to note how Professor J. Y. Simpson, theologian as well as scientist, solves the problem. He maintains in his "Man and the Attainment of Immortality" that man is not immortal but only becomes so when brought into relationship of obedience to Jesus Christ. The coming of Christ, it is said, "was no more, but also no less a 'special intervention' than the appearance of life, or self-consciousness, or any of the other big lifts in the cosmic process" (pp. 311,

312). The Virgin Birth is a "beautiful story" which arose out of belief in the sinlessness of Jesus and a misunderstanding of the passage in Isaiah. The doctrines of pre-existence and deity, came, it is intimated, from an unwillingness to deny to Jesus the highest categories. Continuity must be preserved at all costs: "Life builds upon the basis of the inorganic elements; self-conscious after all posits consciousness; Jesus is the Son of Mary" (p. 264). With one hand Professor Simpson lowers, but with the other hand he exalts the person of Christ. Jesus becomes non-miraculous in origin and person, but so endowed with creative power that relationship to Him raises man from the level of the beasts that perish to become a sharer of the immortal life of God. Jesus becomes of historic not of cosmic significance, the product of a temporal process, but He is as well the author of eternal salvation to them that obey Him. The equilibrium in Professor Simpson's scheme is unstable. If, as the church has always believed and proclaimed in her creeds, Jesus was conceived by the Holy Ghost and born of the Virgin Mary, then we have in the coming of Christ a union of the natural and supernatural which may well throw light upon other critical moments and "big lifts" in the natural series.

Over against the certainties of Christian faith and experience the evolutionary philosophy is a curious mixture of *gnosis* and *agnosia*. The evolutionist "knows" that life was produced by natural causes, but he cannot describe or reproduce or imagine the conditions under which it arose. He "knows" that man is the offspring

of the animal, but he does not know from what animal he sprang, or when, where, how, or in how many instances the transition took place. He "knows" that all species have arisen from natural causes from a few forms or from one, but he has never observed a single instance of such transformation and has practically given up the attempt to imagine how it might have taken place. As if to console himself for his loss of confidence in natural selection or any proposed method of transformation, the evolutionist proclaims that though agnostic as to the factors he is certain of the fact. The Christian theist is tempted to cry out, as Paul did to the intelligentsia of Athens, "What ye ignorantly worship that declare I unto you." The growing skepticism of evolutionists as to the factors of evolution is being matched by a growing skepticism among the intelligent public as to the fact.

The religious thinker will have an open mind to scientific evidence, but will insist that fact and assumption be carefully distinguished. He will be slow to accept as the teaching of science metaphysical inferences built upon uncertain data. He will attempt to prove all things and hold fast that which is good. In the present state of scientific opinion he will see everything to justify the belief that the science of tomorrow will be different from the science of today, and he will see nothing to forbid the conviction that the word of the Lord endureth forever.

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