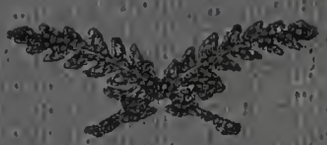
EVOLUTION In a NUTSHELL



ZERBE

Evolution in a Nutshell

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The Pro and Con Briefly, Clearly and Fully Presented

By

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A BOOK FOR BUSY BUT INQUIRING MEN AND WOMEN

IN keeping with the spirit of progress in the present age, the subject of evolution has acquired increasing interest and importance and is rapidly shaping thought not only in every department of science, as physics, chemistry, biology and psychology, but also in government, education and religion. The Scopes trial in Dayton, Tennessee, last summer, taxed the resources of able men of all shades of opinion and was advertised throughout the length and breadth of the land. Elaborate arguments were presented on both sides; newspaper correspondents wired fact and fiction; and the stage setting was ludicrously spectacular. Little was settled.

Unfortunately the real merits and underlying issues were not definitely formulated or exhaustively argued. As a result, the public in general and otherwise well-informed persons have been left in a state of doubt and perplexity as to the facts and truths of the matter. The Scopes trial, however, was only an incident, one phase of a widespread uneasiness concerning the real nature and scope of what is called evolution—a state of mind due largely to the fact that writers have uniformly failed to explain what evolution is and what it is not.

It is clear that the problem has taken such a wide range and involves the facts and discoveries in so many fields of inquiry that it cannot be settled off-hand, but requires an encyclopedic knowledge and grasp of contemporaneous science and philosophy.

This little book aims to present within the lowest possible limits consistent with clearness the chief arguments pro and con, dispassionately and in accord with ascertained facts. It is prepared by one who, having studied in the chief universities of this country and of Europe and having taught, written and lectured many years on the subject, is presumably qualified to reflect the latest and maturest scientific thought.

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Evolution in a Nutshell

CHAPTER I

The Theory of Evolution

1. The Term Evolution Defined

THE term *evolution* means, etymologically, unrolling or unfolding. It has, however, come to be used in various, and sometimes not altogether legitimate, senses. Men speak of the evolution of history, of literature and of a dramatic plot; of the evolution of civilization, of a nation and of a religion; and in the same breath, of the evolution of the automobile, of a lady's bonnet and of the oak from the acorn. It is obvious that such loose use of language is confusing and misleading. In contemporaneous usage, the word cannot, unfortunately, be limited to its original meaning as given by Webster, namely, "the history of the steps by which any living organism has acquired the morphological and physiological characters which distinguish it."

2. Evolution as Growth or Development from a Germinal to a Mature State

The word *evolution* is constantly, but inaccurately, employed to denote change, progress and improvement, as in the arts and machinery. To designate as evolution both the improvements in the printing-press from Gutenberg to the latest Hoe pattern and the growth of a grain of wheat to the mature stalk is an outrageous abuse of language, for the two processes are entirely distinct.

In former times, when people used language with more discrimination than today, the word *evolution* denoted descent or derivation, as offspring from parent. Thus James Ward, a

famous British author, writes: "By evolution or development was meant originally the gradual unfolding of a living germ from its embryonic beginning to its final and mature form. . . . Evolution, in short, implied ideal ends; in a word, was *teleological*. In this sense mechanical evolution or development becomes a contradiction in terms, because science now regards the universe as a closed system controlled by natural law and admitting of no intervention, even by the Almighty." *(Naturalism and Agnosticism.)*

The Duke of Argyll writes: "Development is nowhere more conspicuous than in human invention: the gun, the watch, the steam-engine, etc. But this kind and conception of development has nothing whatever to do with the purely physical conception involved in the Darwinian theory." *(Organic Evolution Cross-Examined*, p. 75.)

If scientists meant no more by evolution than growth, development from the lower to the higher in the history of the universe and of man, there would be little, if any, controversy. But the word has quietly and surreptitiously been twisted from its original to an entirely different, illegitimate and revolutionary connotation, as we proceed to show.

3. *Evolution as Denoting Continuity, Uniformity and an Entirely Intrinsic and Naturalistic Process*

As we now understand in scientific circles, the term *evolution* denotes a power, force or energy pervading the whole universe, physical, psychical, moral, spiritual and religious, from the lifeless atom and electron on up through plant and animal life until the climax is reached in man. The keynote, the underlying idea, is continuity, intrinsic, eternal, *absolute continuity* from first to last, if indeed there be a first and last. "Continuity," says Sir Oliver Lodge, "is the backbone of evolution." According to

the doctrine of continuity all takes place through the absolute supremacy of natural law, whether such laws (as in quasi-theistic systems) were ordained by God or are in their nature eternal (as in pantheistic, materialistic and atheistic systems).

That such is the real meaning of the doctrine of evolution as usually taught in high schools and colleges is established by the writings of Huxley, Haeckel, Cope, Crampton, Conklin, Osborn, Coulter, Leuba, Burroughs and scientists generally, as well as by nine-tenths of recent books on evolution. Professor Huxley writes: "The hypothesis of evolution supposes [a supposition, not proof] that in all this vast progression there would be no breach of continuity, no point at which we could say, 'This is a natural process' and 'This is not a natural process.'" Professor E. D. Cope writes: "The doctrine of evolution may be defined as the teaching which holds that creation has been and is accomplished by the agency of energies which are intrinsic in the evolving matter, and without the interference of agencies which are foreign to it. . . . *The science of evolution is the science of creation.*" Here it is categorically affirmed that evolution and creation are convertible terms—a shocking abuse of language.

Le Conte, a cosmic theist, gave, possibly, the most concise and comprehensive definition: "Evolution is (1) continuous progressive change, (2) according to certain laws, (3) by means of resident forces. . . . The process (4) pervades the whole universe, and the doctrine covers alike every department of human thought." The conception of "certain laws," "resident forces," "pervading the whole universe," together with the idea of eternal continuity, excludes the idea of a Creator prior to and above the cosmic process.

4. Evolution as an Intrinsic Transition from the Homogeneous to the Heterogeneous

Herbert Spencer's famous definition, adopted from von Baer, runs thus: "Evolution is an integration of matter and concomitant dissipation of motion; during which matter passes from an indefinite, incoherent homogeneity to a definite heterogeneity; and during which the retained motion undergoes a parallel transformation." The only point that merits notice here is the idea that evolution is an intrinsic or natural change from the homogeneous to the heterogeneous. As seen above, there is a true evolution, as of the flower from the root. Thus, a vegetable seed develops or evolves into a stalk. Root and stalk are still homogeneous—that is, of the same kind—and ever remain so. According to pseudo or false evolutionism, a homogeneous substance, as *e. g.* a pea, transmutes itself into a radish, or conversely a radish into a pea, that is, into something of another and distinct kind. Under this view the homogeneous mineral by intrinsic force converts itself into a heterogeneous vegetable. It is needless to add that no such changes or transmutations are on record.

Though Spencer's definition is rarely mentioned by contemporaneous writers on evolution, its has been tacitly accepted by scientists; and in truth there is no escape from it, if evolution is to be a universal law or principle connecting and explaining the worlds of matter, life and mind. A generation ago evolution was generally understood to be limited to what is known as organic evolution, or as the unfolding or development of created life-forms, the Creator, as Charles Darwin phrased it, having created some three, or at most four, fundamental kinds. But all this is a thing of the past, or as they say in Germany and at the University of Chicago, *ein überwundener Standpunkt*, "an

obsolete viewpoint." In the language of a thoroughgoing evolutionist, "Cosmic evolution and organic evolution, the growth of suns and stars, of earth and plant, and man, are continuous parts of one process, . . . different phases of one continuous, all-pervading process of creation. . . . Evolution, based on permanent natural laws. . . . A universal creative process back of evolution." (W. Patten, Dartmouth College, in *The Grand Strategy of Evolution.*) Scientists generally hesitate to avow boldly the underlying principles of their philosophy, but ex-President Eliot of Harvard comes out with an unqualified energetic monism: "The scientific doctrine of one omnipresent, eternal Energy is fundamentally and completely inconsistent with the dualistic conception which sets spirit over against matter, good over against evil, man's wickedness against God's righteousness, and Satan against Christ." (*Religion of the Future*, p. 18.) Not even the arch-pantheist Spinoza obliterated the distinction between matter and mind, right and wrong.

5. *The Current Theory of Evolution an Old Naturalism*

Whatever the word evolution meant formerly, it has undergone a radical change in current thought. Scientifically it denotes that everything in the universe, force, life, mind, has arisen according to natural law and through intrinsic forces from eternity. Some so-called theistic evolutionists allow that God created the physical universe with its natural laws, but ever afterward withdrew from all control over such laws; but this is the old deism, and in fact the most stupid of all views, for it implies that God created the universe and then left it to its fate for weal or woe. This, too, being an obsolete viewpoint, the evolutionist is in an awkward dilemma. If he allows that God created matter and force, atoms, electrons, ions, etc., he is logically driven to allow that He may have created plant and animal

life and man. But such admission would overthrow his assumption of the continuity and invariability of natural law, and so, driven to the wall, he is tempted to question whether God created anything at all. He usually retains the word *God*, but his God is either the Absolute of philosophy, or the God of deism, or the "finite God" of H. G. Wells and the pluralists, a God powerless to control the complex affairs of the Cosmos.

6. *The Newtonian and the Laplacean Viewpoints*

In the pre-Darwinian and early post-Darwinian periods the word *evolution* was still understood quite generally, though not without exception, in a theistic sense. Sir Isaac Newton at the close of the *Principia* declares that "the whole diversity of natural things can have arisen from nothing but the ideas and the will of one necessarily existing being who is always and everywhere, God Supreme, infinite, omnipotent, omniscient, absolutely perfect." A century later, when Laplace submitted his *Mecanique Celeste* to Napoleon, the latter inquired why the word God did not once occur in the treatise. Laplace replied haughtily: "Sire, there is no need of him," implying that there was no God back of the nebulous mass assumed by Laplace.

The fundamental difference between the science of Newton's day and ours is the difference between the Newtonian and the Laplacean viewpoints, the one theistic and supernaturalistic, the other naturalistic, untheistic and practically atheistic. As says James Ward, "We have to note the existence in our time of a vast circle of empirical knowledge in the whole range of which the idea of a Necessary Being or a First Cause has no place." *(Naturalism and Agnosticism.)*

7. *The True Inwardness of the Current Theory of Evolution*

That the above description of the real inner nature of the

current theory of evolution is in accord with facts we prove by citations from authorities. According to the Standard Dictionary, "Evolution is the cosmological theory that accounts for the universe and its contents by the combination [not divine creation] of separate and diffused atoms existing originally in a condition of absolute homogeneity." This is simply the Spencerian idea of homogeneity passing into heterogeneity. The British psychologist James Sully, co-author of the article "Evolution" in the Encyclopedia Britannica, writes: "It is clear that the doctrine of evolution is directly antagonistic to that of creation. Just as the biological doctrine of the transmutation of species is opposed to that of special creation, so the idea of evolution as applied to the formation of the world as a whole is opposed to that of a direct creative volition."

Similarly the Century Dictionary: "Evolution, the doctrine of the derivation of all existing species, genera, orders, classes, etc., of animals and plants, from a few simple forms of life, if not from one; evolutionism. In this sense, evolution is opposed to *creationism*, or the view that all living things have been created at some time substantially as they now exist." If need be, many other authorities can be cited to the same effect.

CHAPTER II

The Theory of Creation

IN marked contrast with the foregoing is the Biblical creation theory recorded in the first two chapters of Genesis. Whatever may be said of the critical view that the two chapters are by different authors and of different dates, they present fundamentally the same idea, that the physical universe, plants, animals and man were created in time by the Supreme Being. As Chapter I is the backbone of the creation narrative a brief outline is necessary.

1. Three Pivotal Points

According to Scripture, and sound philology and philosophy, creation is the calling into being of that which previously was not. It is not an accident that the Hebrew word *bara (created)*, found in Genesis 1:1, 21 and 27, and there only, denotes the primordial creation of the three distinct realms of matter—force, life and man. There is, first, the realm of matter-force (we employ this hyphenated expression because science is not certain whether matter exists in itself or is merely phenomenal). Matter as such can do nothing; it is dead. It is the force resident in matter that is active. But such force never becomes life. There is, second, the realm of life. The ancients called it the soul of the world *(anima mundi)*. What life is science does not know and cannot produce. According to Scripture it is a divine creation.

The third realm is that of spirit, of which God is the head and under which man comes. Biblically the difference between man and the animal is greater than between the plant and the animal. The reason is obvious. The latter has merely the

life-principle, whereas man has in addition the spirit-principle and entity. These three realms are absolutely distinct. Hence, says Guyot: "According to this [the use of the word *created*] the evolution from one of these orders into the other—from matter into life, the animal life into the spiritual life of man—is impossible."

2. The Creative Days in Outline

The first chapter of Genesis falls naturally into the following divisions and sub-divisions:

1. THE INORGANIC ERA

First day—Light cosmical.

Second day—The earth divided from the fluid around it, or individualized.

Third day—1. Outlining of the land and water. 2. Creation of vegetation.

2. THE ORGANIC ERA

Fourth day—Light from the sun.

Fifth day—Creation of the lower order of animals.

Sixth day—1. Creation of mammals. 2. Creation of man.

That a marked parallelism exists between this outline and the teachings of science has often been pointed out, but studiously ignored in current thought. Prof. J. D. Dana, of Yale, states the case thus: "The cosmogony of modern science teaches that the universe was first in a chaotic or gaseous state. The process of its development included the following steps: 1. Activity begun—light an immediate result. 2. The earth made an independent sphere. 3. Outlining the land and water, determining the earth's general configuration. 4. The idea of life in the lower plants, and afterwards, if not contemporaneously, in the lowest or systemless animals, or Protozoans. 5. The energizing light of the sun shining on the earth—an essential preliminary to the display of the systems of life. 6. Introduction of mammals—the highest order of the vertebrates,—

the class afterwards to be dignified by including a being of moral and intellectual nature. 7. Introduction of man." (*Manual of Geology*, p. 743.)

Elsewhere Dana writes: "The first thought that strikes the scientific reader is the evidence of divinity, not merely in the first verse of the record and the successive fiats, but in the whole order of creation. There is so much that the most recent readings of science have for the first time explained, that the idea of man as the author becomes utterly incomprehensible. By proving the record true, science pronounces it divine; for who could have correctly narrated the secrets of eternity but God himself?"

3. *Fiat Creation*

One hears much these days in derision of fiat or special creation. The word *fiat*, as every school-boy ought to know, occurs in the Latin translation of verse 3, *dixitque Deus fiat lux*, and means the divine command, expressed, not audibly, but volitionally and executively. It is an accommodation to human modes of expression. When President Coolidge, on February 3, 1924, issued a proclamation directing that, in testimony of respect to the memory of Woodrow Wilson, flags be displayed at half-staff, he issued a "fiat." What else but "special" and a "fiat" could creation in the Biblical sense be?

4. *The Creation of Man*

Two verses of special interest to mankind are Gen. 1:27, "God created man in his own image; in the image of God created he him; male and female created he them," and 2:7, "Jehovah God formed man of the dust of the ground and breathed into his nostrils the breath of life; and man became a living soul." The narrative, instead of saying, "let there be man," "let the earth produce man," represents God as in a

contemplative pause, evidently to indicate the superior worth and dignity of the creature about to be formed. "Earth and earth's tribes were prepared; but now there is a king to be set over them—one like them, but also unlike them; a complex being, made up of the dust of the earth and of the image of God." (Alford.)

As great confusion of thought prevails regarding the real nature of man contrasted with the highest animals, we quote at length from S. R. Driver, a great Old Testament critic: "The image is (1) something which evidently forms the ground and basis of his entire pre-eminence over animals; (2) it is something which is transmitted to his descendants (5:1, 3; 9:6) and belongs therefore to man in general, and not to man in a state of primitive innocence; (3) it relates, from the nature of the case, to man's immaterial nature. It can be nothing but the gift of *self-conscious reason*, which is possessed by man, but by no other animal. In all that is implied by this—in the various intellectual faculties possessed by him; in his creative and originative power, enabling him to develop and make progress in arts, in sciences and in civilization generally, which no animal has ever been able to do, . . . in the capacity for knowing God and holding spiritual communion with Him—man is distinguished fundamentally from other animals and is allied to the divine nature." (*Genesis*, p. 15.) When one recalls that Driver wrote this during the full sway of the Darwinian hypothesis, it is significant.

5. Length of the Creative Days

The question of the length of the creative days has always perplexed Bible students. How may the flat contradiction between the Usher date of 4004 B. C. for the creation of the world be reconciled with the millions of years demanded by geology and astronomy? Let certain facts be noted. Already in

the early Church it was noticed that the Hebrew *yom*, day, has four meanings within the limits of the first two chapters. 1. In 1:3-5 it means the whole period of evening and morning. 2. Then in verses 14-19 *yom* means day in the sense of measurement of duration. 3. Again in verse 5 there are two meanings of the word. 4. Finally in 2:4 it means the whole creative period. Hence *yom* may mean a day of twenty-four hours, or a period of undefined length, the day of Jehovah, with whom a thousand years are as one day.

The intelligent Bible student knows that the dates in the margin of the Authorized Version of the Old Testament are not a part of the text, that is, are not "inspired," but the calculations of scholars and subject to revision. Even before the rise of modern science Old Testament scholars concluded that the Usher date of 4004 B. C. must be abandoned. Dr. W. H. Green, of Princeton Theological Seminary, in an article in the *Bibliotheca Sacra*, April, 1890, showed that the chronology of the first eleven chapters of Genesis is not fixed absolutely and admits a wide margin of interpretation. The view, therefore, that would seem to meet the essential conditions of the case is to regard the days of the first chapter as age-long periods, or God-divided days, in distinction from sun-divided days, as said Augustine centuries before the advent of modern geology.

6. Creation ex Nihilo

A word must be added on another greatly misunderstood subject, namely, creation *ex nihilo*, or "creation from nothing." *Ex nihilo* means that the creation of an object is not due to a development of any existing thing. The decisive language of Heb. 11:3, "by faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which appear," proves that things seen are not made of things that appear, and this is verified by the very

latest philosophy. The Greeks said: "From nothing, nothing comes." Hence, as polytheists, they concluded that the universe is eternal, which was a correct inference from their premises. Christian thought accepts the Greek apothegm, but in the sense that the Infinite Spirit out of nothing outside of himself created the universe.

It ought to be remembered that the doctrine of creation as contained in the first two chapters of Genesis runs through the whole Bible. See Prov. 8:22; Neh. 9:6; all of Psalm 104; Acts 17:24; Rom. 11:36; I Cor. 8:6.

7. The Biblical and the Babylonian Cosmogonies

The opinion is widely current that the early chapters of Genesis are derived from Babylonian sources and that the first chapter especially is based upon a Babylonian epic of the Creation. There are various fragments of so-called Babylonian creation poems, but the only one that merits notice was written, or at least revised, in the time of Ashurbanipal, in the seventh century B. C. It contained originally about 900 lines, of which, however, some 200 are lost. Most of the language is placed in the mouth of Marduk, the later supreme god of the Babylonians. As a matter of fact only a passage here and there can by the utmost stretch of the imagination be brought into comparison with the originality and sublimity of the Genesis narrative. We reproduce from the first tablet a few characteristic lines alleged to be the source of the Biblical account:

> When above the heaven was not named,
> And beneath the earth bore no name,
> And the primeval Apsu, who begat them,
> And Mummu and Tiamat, the mother of them all,
> Their waters were mingled together,
> And no field was formed, no marsh seen,
> When no one of the gods had been called into being,

> And none bore a name, and no destinies were fixed,
> Then were created the gods in the midst of (heaven),
> Lakhmu and Lakhamu were called into being.

The reader will see that these lines are vague and insipid and do not approach even remotely the clearness and grandeur of Genesis. It will be noticed that even the gods themselves are represented as having been created. In the other tablets, water, heaven, earth, gods, Marduk, the abyss, animals, man, plants, minerals appear in no logical or natural order. All is disorder and confusion. The only possible parallel is in the conflict between Marduk (light) and Tiamat (darkness) and the division of the abyss into upper and lower waters.

It is difficult to see upon what evidence the Hebrew account can be regarded as derived from the Babylonian. The former is distinctly and characteristically theistic, homogeneous, systematic, advances from the lower to the higher in scientific order and implies the personality and sovereignty of God. The latter is grossly polytheistic, or rather naturalistic, for all is the result of blind force, the gods themselves being the offspring of nature. Toward the close of the poem the god Ea is swept away and "an atheistic philosophy has taken its place." (Sayce.) The view of some Assyriologists is that both accounts go back to an original source. According to Sayce, the Babylonian account "is probably not much older than the age of the second Assyrian empire." Much can be said in support of the view that the Biblical cosmogony goes back to a primitive, monotheistic, Accadian-Babylonian source, which in a more or less pure form was handed down to Abraham and his posterity and ultimately used in the composition of the Biblical narrative.

CHAPTER III

Chief Lines of Proof of Evolution

PROOFS of evolution are derived from many fields and departments of science, but chiefly from geology, comparative anatomy, embryology and genetics. We review these briefly.

A. Geology

As the result of years of investigation into the nature and constitution of the earth, scientists have classified the data under the heads of eras and periods, as Azoic, Proterozoic, Paleozoic, Mesozoic, Cenozoic, Pleistocene and Quaternary. Our classification is based upon that of Chamberlin and Salisbury's College Geology and of Grabau. Though we use the term geology, the evidence for evolution is in reality not so much from geology, the science of the rocks, as from paleontology, the science dealing with fossils of plants and animals excavated from the terrestrial strata. It has a certain advantage for our purpose, since the remains, though very fragmentary, are usually parts of the solid portions of organisms actually existing in former times. And yet we must not expect too much, for it is difficult to prove in all cases that the supposed stratum of a fossil is the real one. Charles Darwin himself admitted "the imperfection of the geological record," and regarded it as "a history of the world imperfectly kept and written in a changing dialect."

As there was no life in the Azoic era and very little in the Proterozoic, we begin with the Paleozoic and its subdivisions into periods.

1. The Paleozoic Era

The reader must exercise patience in our use of certain long and unusual words; otherwise it will be impossible to get the drift of the argument. Let it be stated once for all that, since

the corner-stone of the doctrine of evolution is *continuity*, geology must indicate a constant advance and progression, genetically, from the lowest to the highest forms of life. If breaks should occur, or the succession appear to be an emergence of types and forms not the lineal descendants of the immediately preceding organisms, the assumed law of continuity would be invalidated and the Biblical representation of a direct creation upheld. How does the case stand in the Paleozoic era?

According to evolutionary postulates only the lower organisms should appear in this early era. But already in the Cambrian, the first period, "every great division of the animal kingdom, except the vertebrate, had its representative." (Cham. and Salisb., p. 495.) In the next period, the Silurian, complex organisms are found, one of the most notable being trilobites with well-developed eyes, which confirms the Biblical representation that eyes were made for seeing, rather than the evolutionistic dogma that, seeing being required, eyes arose spontaneously. The great gulf between the radiates, mollusks and invertebrates existed in the Silurian. A strange fact is that species ruthlessly appeared and disappeared, apparently without ancestors or descendants. This militates against the law of continuity. Recognizing this dilemma, Grabau states the issue between Christian theism and science: "Only two explanations seem possible. Either these forms were created at the beginning of the Cambrian time and thereafter continued to evolve and become differentiated . . . or the base of the Cambrian does not present the earliest record of life"—implying, that is, special creation of organic types. (*Geology*, II, p. 536.)

In the Carboniferous period immense forests exuded sap (petroleum); there were mollusks and fish, but few air-breathing animals. Of some ten thousand species of animals at the beginning of the Carboniferous, there were only some 300 at the

close. In fact there was a *great gap* between this era and the following. In short, one may ask, Where is the evolution?

2. Mesozoic Era

In the first or Triassic period of this era varieties of fish and birds of gigantic size and in great number (now extinct) appeared. "There was a great break in the succession of land life, so far as the record shows. What became of the Permian vertebrate faunas of North America is unknown." (Chamb. and Salis.) "In view of the mammalian dominance in later times, it is noteworthy that the non-placentals developed but slowly and feebly during the Mesozoic era." Again, we are told by the University of Chicago geologists: "The marvelous development of aquatic and terrestrial reptiles and birds makes the scanty record of the mammals all the more singular." We ask, where is the evolution?

Then came the Cretaceous or chalk-formation period, in which trees like the beech and oak, aquatic reptiles, dinosaurs and terrestrial birds flourished. The marsupial mammals of the Jurassic period and the placentals of the Eocene seem to have disappeared. "The most remarkable departure from the preceding ages is the prominent place which the rhizopods or foraminifers (invertebrates) take in the record. They made large contributions to the chalk of the period." One wonders how the highly organized placental mammals of the Eocene period were evolved from the invertebrate rhizopods.

3. The Cenozoic or Tertiary Era

In the Cenozoic era we find marked peculiarities in the new species in place of the Cretaceans, the disappearance of great saurians and the rise of placental mammals. With reference to the first period of this era Chamberlin and Salisbury say: "No traces of apes have been found in the Eocene, but representatives of the lower primates, the lemuroids, appeared in the

Wasatch epoch in America, and in a similar horizon in Europe."

Then in the Miocene period reptiles, cat and dog families abounded. Among primates are apes, monkeys, lemurs, chimpanzees and gorillas, but "the record throws no light on the origin of the Hominidae." Here, again, a troublesome situation arises. The statements of Chamberlin and Salisbury and of Grabau and geologists generally concerning the slow development of the placentals in the Triassic period, the scanty record of marsupials in the Jurassic, the unimportant part played by the placental mammals in the Cretaceous, their sudden appearance in the Eocene and the precedence of ungulates in the Miocene seem inexplicable on evolutionistic principles of continuity.

A similar observation applies to the Pliocene period, in which there were sloths, ant-eaters, armadillos and remarkable South American monkeys, but no near approach to the human species.

4. The Pleistocene or Glacial Era

This era has peculiar value and significance, as it is the one which immediately precedes the advent of man. The distinguishing feature is the extensive glaciation, or ice-sheets, covering some six or eight million square miles of the earth's surface where previously mild climates had prevailed. Proof of the ice-formations is found in the drift, the surface of the rock underlying it and the relation of the drift to its bed. The drift ranges in depth from several feet to five hundred. The causes and duration of the glaciation are subjects of dispute among specialists.

5. Life in the Pleistocene Age

That which concerns us especially is the extent to which plant and animal life was affected during this era. Chamberlin and Salisbury hold that the glaciation "destroyed much life and caused great change in that which survived," and, though "more

than half the known species of marine Pliocene invertebrates are still living, . . . the land vertebrates were very generally replaced by new species"—that is, the old had died out, but whence the new species came is not definitely known. Some scientists suggest extensive "migration;" others hold that the glacial epoch enabled animals to escape and become the progenitors of later forms, but there is no general agreement as to the chief reason.

Nor are scientists agreed whether man existed in the Pleistocene era. Grabau unhesitatingly affirms the presence of man not only in the late, but also in the early Pleistocene. Others deny this and, in fact, throw doubt on the whole scientific method in seeking to determine man's antiquity. Professor A. G. Tansley, in the presidential address before the Biological Section of the British Association in 1923, points out the weakness of the fossil argument and regards the search for common ancestors among the plants as "literally a hopeless quest, the genealogical tree an illusory vision." (*Nature*, March 8, 1924.) In the same issue of *Nature* Professor F. O. Bower of Glasgow University writes: "At the present moment we seem to have reached a phase of negation in respect of the achievements of phyletic morphology, and in conclusions as to descent."

In *Nature*, April 26, 1924, Professor A. C. Seward, Cambridge University, writes: "The present tendency is to discard the old-fashioned genealogical tree, with its wonderful diversity of branches, because a student who takes an impartial retrospect soon discovers that the fossil raises more problems than it solves."

B. COMPARATIVE ANATOMY

Every one has noticed certain remarkable resemblances between animals. The same general plan is seen in the forefoot of the rat, the opossum, the horse and the elephant; but it does not follow that these are the same or have the same origin.

The fact that scientists constantly argue that, because anatomical resemblances exist between the ape and man, therefore they have the same origin, necessitates an inquiry into the true state of the case.

1. The Argument from Similarity of Structure

Comparing the ox and the horse, we find that in both the foreleg is exclusively locomotive in function. There are other points of resemblance, but there were slightly different modes of converting the primitive five-toed and mobile anterior limb into forms purely locomotive. Professor W. B. Scott writes: "The same elements are present in the human hand and arm as in the foreleg of the horse and ox, but in each case characteristically modified to serve different ends. Man's hand is really a very primitive and undifferentiated structure and can be put to a great many different uses. Had it been highly specialized for a single purpose, human progress and civilization would have been impossible, for these have always depended upon co-ordination of hand, eye and brain." Here, with some degree of similarity, we see widely different structure and function and little that indicates identity of origin.

Scott shows in the case of the Crustacea that "there is a great variety in the number of segments which are united to form the head and trunk, as well as in the form and function of the appendages. The comparison immediately suggests the derivation of all the Crustacea from ancestors in which all the segments, except the head, were similar and were provided with appendages which were similar throughout. As this group or that advanced in differentiation certain appendages became specialized for the better performance of particular operations." Examples of a similar character might be adduced from all the great divisions of the animal kingdom. Under this view Scott allows that the belief in a creative plan is not excluded. It

would follow that the general plan of the Creative Days outlined in our Chapter II is scientifically substantiated or at least not disproved.

This latter conclusion is borne out by Scott's additional comments: "Another and perhaps weightier objection to the theory of genetic connection is that comparative anatomy gives us no means of connecting animals of fundamentally different types or plans of structure. It is impossible to derive a fish from a lobster, or a starfish from an oyster, and thus the different structural types would seem to be separated by *impossible barriers*. Evolution *within the type* might be admitted, without conceding the possibility of deriving one type from another." (*Theory of Evolution*, p. 54.)

This idea of "separation of impossible barriers" and "evolution within the type" is virtually a return to the original and legitimate meaning of the term. (See above, page 2.)

2. Physical Differences between Man and Higher Animals

Contrary to the popular idea, zealously and constantly paraded by scientists, the similarities between man and higher animals are not at all typical or fundamental. Thus, the quadrumana go on all fours horizontally, or in a more or less stooping posture, while man walks upright. By no process of development could the ape or gorilla change the structure of their frame to the upright attitude of man. "Acquiring an upright position could not have been useful to man in his assumed low condition as he emerged from the animal, and consequently such a change cannot be explained by natural selection," or any evolutionary process. Alfred R. Wallace, the famous British scientist, declared that the difference between man and animals is unaccountable through natural selection: "The inference I would draw from this class of phenomena is that a superior intelligence has guided the development of man."

Wallace cites as an objection to the evolution of man from the ape the absence of a covering of hair from man's body, for if evolved it must have been from animals that had a hairy covering, and the loss of hair would be of no use to man in the primitive state.

Professor Virchow writes: "There exists a definite barrier separating man from the animal which has not yet been effaced—heredity, which transmits to children the faculties of parents. We have never seen a monkey bring a man into the world nor a man produce a monkey. This fact has been abundantly verified through the Mendel-Weismann law of the non-transmission of acquired characters. All men having a simian appearance are simply pathological variants."

3. Anatomical Differences between Man and the Ape

It is asserted on all sides that anatomical structure shows that man and ape are of the same order. Huxley, however, writes: "I find that those who endeavor to teach what nature so clearly shows in this matter are liable to have their opinions misrepresented and their phraseology garbled until they seem to say that the structural differences between man and even the highest apes are small and insignificant. Let me take this opportunity, then, of distinctly asserting, on the contrary, that they are great and significant; that every bone of a gorilla bears marks by which it might be distinguished from the corresponding bone of a man; and that in the present creation, at any rate, no intermediate link bridges over the gap between Homo and Troglodytes." (*Cyclopedia of Science.*)

In another work, "*Evidences of Man's Place in Nature,*" Huxley enters into minute details on the anatomical differences between man and apes. Holding that the animal which most nearly approaches man is either the chimpanzee or the gorilla, he selects the latter for comparison: "In the general propor-

tions of the body and limbs there is a remarkable difference between the gorilla and man, which at once strikes the eye. The gorilla's brain-case is smaller, its trunk larger, its lower limbs shorter, its upper limbs longer in proportion than those of man." Huxley shows that the same difference exists in the case of the arms, legs, hands, neck, pelvis, ribs and vertebral column.

More recent authorities support Huxley's position. Professor Otto Hamann, in his great book, "*Die Abstammung des Menschen*" (The Descent of Man), writes: "The more or less upright position of the body of the anthropoid apes depends mechanically upon causes fundamentally different from those which apply in the human body. . . . The upright walk of the ape depends for the most part upon muscular work. In the human body on the contrary the connection of the head with the spinal column is where the spinal marrow enters from the skull through the aperture at the back of the head into the spinal column."

Baumueller, as quoted by Hamann, points out "that man goes upon his feet without the use of his arms for support or balance; that body, thigh and lower part of the leg lie as it were in a line, and that the axis of length takes a vertical position to the level ground. The ape, on the other hand, even the gibbon, cannot stand upright like man. Even when he raises himself, the thigh and leg never stand in a line, but the thigh forms with the body and the lower part of the leg, and the latter again with the level ground, a greater or smaller angle. . . . Were the ape to stretch his leg like a man neither safe walking nor standing would be possible to him. . . . On that account no ape can even temporarily walk upright, that is, like a man."

In short, so far as the argument for man's descent from the ape family turns on anatomical similarity, the conclusion must be: "Not proved."

C. EMBRYOLOGY

Embryology is the study of the organism from its beginning in the cell or egg to its maturity in the adult. It is usually divided into two parts: ontogeny, the development of the individual; phylogeny, or the development of the race. In the out-and-out theory of evolution, the development of the individual is but the development of the basic characteristics of the race or species. It passes under the name of the "recapitulation theory," the individual being regarded as merely a recapitulation of the race. Haeckel regarded it as the fundamental biological law, but scientists today are still warring over the fundamental facts.

1. Conflicting Evidence

Only several weeks are required for a speck of protoplasm in a hen's egg to develop into a chick capable of taking care of itself. But according to evolutionists millions of years are required for the development of amphibians into birds. Some animals pass from a larval into a higher state, as the tadpole into the frog and the caterpillar into the butterfly. Here the development of the species has no bearing on the development of the individual.

Accordingly, says C. Gegenbauer, "ontogeny becomes a field in which an active imagination has full scope for its dangerous play, but in which positive results are by no means everywhere to be obtained." Professor E. B. Wilson, an authority on the cell, writes: "It must be evident to any candid observer, not only that the embryological method is open to criticism, but that the whole fabric of morphology, so far as it rests upon embryological evidence, stands in urgent need of reconstruction."

2. The Theory of Germinal Variation

A generation ago the German scientist A. Weismann turned the investigation into a new channel by the claim that variations

are germinal, that is, that they first appear in the egg and the sperm and cause modifications in the individual. According to Professor T. H. Morgan, "the idea has been fruitful and is generally accepted by biologists today. It means that the offspring of a pair of animals are not affected by the structure or activities of their parents, but the germ plasm is the unmodified stream from which both the parents and the young have arisen. Hence their resemblance." (*A Critique of the Theory of Evolution.*)

Related to the foregoing is the theory of discontinuous variation, suggested by Bateson and de Vries. This conception militates against the recapitulation theory. "I venture to think that these new ideas and this new evidence have played havoc with the biogenetic law." (*Op cit.*, p. 19.) Other recent authorities, as Professor A. Sidgwick of Cambridge University, the Encyclopedia Britannica and Professor V. L. Kellogg, oppose the recapitulation view, the latter saying: "The recapitulation theory is mostly wrong." (*Darwinism Today*, p. 18.)

3. The Human Eye

According to Scripture, God made the eye for seeing; according to science, animals, needing eyes, proceeded to make them. Charles Darwin spoke of the eye as "a living optical instrument as superior to one of glass as the works of the Creator are to those of men."

Arthur Brisbane sums up the matter thus: "How did blind creatures of the earliest life develop eyes and the complicated machinery of vision? Evolution, survival of the fittest, struggle for existence, adaptation to environment and all other formulae do not explain that any more than they could explain an electric fan or a kodak."

4. Biology and the Cell

Though it has always been held that the organic and in-

organic worlds are marvelously related, it is only within recent years that the claim has been made seriously that the latter produces and in fact is ultimately identical with the former. Such a view is baldly mechanistic and materialistic. Food taken into the stomach affects the nerves and the mind, but it does not follow that the mind is a secretion of the brain. Biology explains many things, but, dealing largely with dead bodies, it can at most touch merely the physical and chemical. We can never by dissecting life get at the life itself. The most elaborate analysis of the brain and the most microscopic examination of the cell do not explain how we think. Young students of biology take only "an elementary course in biology. They listen to lectures and dissect a few of the simpler organisms under the microscope. They leave the course imbued with the idea that the problems of life have been solved or will be solved when knowledge has increased. They have been taught to be receptive to a philosophy of materialism and they confidently spread its doctrines."

Such is the language of Professor L. T. More, of the department of physics in the University of Cincinnati, in the Vanuxem lectures at Princeton in January, 1925, and just appearing in book form under the title "*The Dogma of Evolution.*" It may be stated in passing that the work virtually saps the foundation of the whole structure of the current false evolutionism, as we shall see.

Lately much has been written about the cell. Biologists, such as Schleiden and Schwann, and the great body of teachers in the high schools and colleges regard the cell as the key to the situation. But the outcome "would have been quite different if biologists had continued to study the organism as a living unit instead of transferring the dead organism to the laboratory, there to investigate it as if it were a mere aggregate of elementary

cells whose living structure and function could be fully determined by first killing the cell with stains and then examining its corpus under the microscope. . . . From the point of view of this discussion, we can surely point to it [the cell theory] as leading directly to the theory of mechanistic evolution. The complex living organism becomes but an addition of simple and modified cells; and the cell itself, seemingly lifeless or merely an adumbration of life, can be *assumed* to be merely a complex form of physical nature." (More, *op. cit.*, p. 277.)

Biology has thrown an interesting sidelight on the chemical laws of the dead bodies of the living world, but it has contributed little toward the solution of the inner nature of life, and that little makes of plants, animals and man mere machines governed by physical laws.

5. The Cell in College and High-School Text-Books

The description of the cell found in any college text-book is fascinating, but misleading. Thus Professor C. W. Hunter, whose "Civic Biology" played such an important part in the recent Scopes trial in Dayton, Tennessee, writes: "In the daily life of a one-celled animal we find the single cell performing all the general activities which we shall later find the many-celled animal is able to perform. . . . The single cell is in fact an organism able to carry on the business of living almost as effectually as a very complex animal." (*Op. cit.*, p. 171.) From these sweeping assertions it would follow that the "activities" of man are ultimately due to "cells." Let us look at this astounding proposition.

Biologically the cell is a microscopic body consisting of a jelly-like mass called protoplasm. Minute granules within the cell, say biologists, determine the growth and characteristics of the organism; and by means of splitting of cells, their differentiation, the activity of the chromosomes, the growth, trans-

formation and various extraordinary processes, the one-celled amœba becomes ultimately the many-celled man. It is a well-articulated theory, but is it true?

The science of biology, we are told, is the science of the cell. According to More, the current dogmatism of the cell theory was originally propounded by Schleiden in the dictum: "In the strictest sense of the word, only the separate cell deserves to be called an individual." Probably most biologists would accept this as correct. But, says More: "Could there be a more inadequate or futile idea than to suppose an adult man is contained in the single cell from which he originates or that the multitude of cells of his body has each a separate identity? The cell is a relatively simple physical body, composed of a number of chemical elementary substances combined together in, to us, a complex fashion. But it has one distinguishing feature which, to one who does not believe in a mechanistic or naturalistic philosophy, makes it distinct from the physical world: It is alive; it contains potentially the power of developing into an adult organism which carries on in the man the distinguishing characteristics of the ancestral bodies of which it was once a part. This governing principle, call it spirit, hyperphysical force, biotic force, or what you will, governs and regulates the cell's growth and is so certain in its action that the development to an organism similar to its ancestor never fails: the cell of the oak tree must become an oak tree or nothing." (*Op. cit.*, p. 284.)

6. The Organism More than the Cell

Signs are not wanting that the more philosophic biologists are gradually accepting the view that back of the cell is the life-principle determining the nature of the organism. In fact, they are coming to doubt that life can be subjected to the microscope except in its outward manifestation. Thus, Professor

W. Ritter, as quoted by More, writes: "May we not go further and say that an organism is an organism from the egg onward, quite independently of the number of cells present? In that case, continuity of organization would be the essential thing, while division into cell-territories might be a matter of quite secondary importance. . . . The more carefully we compare the cleavage in different eggs, the more clear it becomes that the test of organization in the egg does not lie in its mode of cleavage, but in subtile formative processes. The plastic forces heed no cell boundaries, but mold the germ-mass regardless of the way it is cut up into cells. . . . The essence of organization can no more lie in the number of nuclei [of the cells] than in the number of cells. The structure which we see in a cell-mosaic is something superadded to organization, not itself the foundation of organization." (*Op cit.*, p. 286.)

Similarly Professor E. B. Wilson: "The only unity is that of the entire organism, and as long as its cells remain in continuity they are to be regarded, not as morphological individuals, but as specialized centers of action into which the living body resolves itself, and by means of which the physiological division of labor is effected." (*The Unity of Organism*, I, p. 161.) In the language of More: "If the cell-theory falls, then the chief support of the mechanistic philosophy of life and evolution is destroyed." (*Op. cit.*, p. 289.)

D. GENETICS—LAWS OF HEREDITY

A fourth line of proof of evolution is sought in the study of heredity or genetics. Individuals are to a certain extent like their parents, and yet marked differences often occur. The extent to which peculiarities are transmitted is another problem which awaits solution. If acquired qualities could be transmitted, new species might arise. Darwin held that, if acquired characteristics are not transmitted, there can be no evolution.

1. Are there New Species?

Before we can decide the question we must know what a species is. The best short definition is that of Le Conte: "If the two kinds breed freely with each other and the offspring is indefinitely fertile, the kinds are called varieties; but if they do not they are called species." The Century Dictionary has a clear definition: "The individuals of thoroughly distinct species do not interbreed, or, if they are near enough to hybridize, their progeny is usually infertile, so that the cross is not in perpetuity. The horse and the ass offer a good case in point."

With this understanding of the term it would seem that there are no new species. Professor W. Bateson, the great British geneticist, writes: "We read his [Darwin's] scheme of evolution as we would those of Lucretius or of Lamarck. . . . The doctrine of the survival of the fittest . . . is mere eighteenth century optimism. . . . It was a commonplace of evolutionary theory that at least the domestic animals have been developed from a few wild types. . . . The various races of birds, for instance, it was said, all came from the Indian jungle fowl. . . . But try to reconstruct the steps in their evolution and you realize your hopeless ignorance. . . . We see no changes in the progress around us which we can imagine likely to culminate in the evolution of forms distinct in the larger sense." (*Melbourne Address.*)

2. The Non-Transmission of Acquired Characteristics

The French scientists Delage and Goldsmith write: "Either there has been a hereditary transmission of acquired characters, or there has been no evolution at all." (*The Theories of Evolution.*) According to Prof. E. G. Conklin, Princeton University, "Weismann introduced a new era in biology by denying the inheritance of all kinds of acquired characters, and by challenging the world to produce evidence that would stand a

rigorous analysis. He forever disposed of *theories of pangenesis* and the like by showing that the germ cells are not built up by contributions from the body and that characters are not transmitted from generation to generation; but on the other hand that there is transmitted a germ plasm which is relatively independent of the body and which is relatively stable in organization. Did the giraffe get his long neck because he browsed on trees (Darwin) or does he browse on trees because he has by inheritance a long neck? Did flying lead to the development of wings (Darwin) or do birds fly because heredity has given them long wings? . . . The evidence is in favor of the second of these alternatives rather than of the first." (*Heredity and Environment*, p. 313.)

On another page Conklin writes: "The chief characters of every living thing are unalterably fixed by heredity. Men do not gather grapes of thorns nor figs of thistles. Every living thing produces offspring after its kind. Men, horses, cattle; . . . all of the billion known species of animals and plants differ from one another because of inherited peculiarities, because they have come from *different kinds* of germ cells." (Page 201.) If living things are unalterably fixed by heredity, how can one species become another, how can an animal, even the highest, become man? Does not Conklin's view overthrow the evolutionistic doctrine of continuity? How can the amœba become a man? So far as we have been able to discover, the question has never been answered.

3. Mendel's Revolutionary Discovery

The most revolutionary scientific discovery of modern times was that of the Austrian monk Gregor Mendel, who, having experimented many years with peas, announced in 1865 a remarkable law now universally accepted by scientists and knocking the props from underneath the whole scheme of continuity

as described above in Chapter I. He found that when he crossed a tall with a dwarf pea, all the first hybrid generation were talls, with no dwarfs or intermediates. Experimenting with peas of all sizes, shapes and colors, he found that the same law held. Taking the two characters of tallness and dwarfness, he found that there are only *three kinds of peas*, talls which breed true, dwarfs which breed true, and tall which yield the same definite proportion of talls and dwarfs. Many experiments conducted in recent years show that the same wonderful mathematical proportion exists throughout the whole plant and animal world.

The law laid down by Mendel is sometimes known as that of Alternative Inheritance, according to which the offspring may show characters possessed by one parent or the other, but cannot develop any characters which were not latent in the ancestry. As the reader ought to grasp the significance of this great discovery we reproduce Bateson's brief description: "The essence of the Mendelian principle is very easily exprssed. It is, first, that in great measure the properties of organisms are due to the presence of distinct, detachable elements, separately transmitted in heredity; and, secondly, *that the parent cannot pass on to offspring an element, and consequently the corresponding property, which it does not itself possess.*"

This Mendelian principle is now regarded as universally valid in the plant and animal kingdom. The breeding of cattle, horses, sheep, etc., has been going on for thousands of years, but no fundamental modifications have ever been produced, or new species originated. Spencer's idea of a change from the homogeneous to the heterogeneous is thus without a shadow of support from science.

CHAPTER IV

Is the Doctrine of Evolution a Satisfactory and Comprehensive World-View?

THAT there has been evolution in the sense of development within the type has been abundantly established, but that there is development from one type or species into another does not seem to have been proved; it is at most a matter of faith.

Unless the doctrine of evolution can be shown to cover the universe of matter, force, energy, life, mind, spirit, it fails to meet the conditions of a satisfactory, all-comprehensive world-view. According to Genesis I the three realms of matter —force, life and personality—are absolutely distinct and the result of divine creation. This division into three spheres is supported by Professor J. A. Thomson in "Introduction to Science": "(1) The physical order of nature, the inorganic world, where mechanism reigns; (2) the vital order of nature, the world of organisms, where mechanism proves insufficient; (3) the psychical order of nature, the world of mind, where mechanism is irrelevant. Thus there are three fundamental sciences: physics, biology and psychology." Let it be stated once for all that, the relation of matter and force, matter and energy being in dispute, we employ the hyphenated phrases matter-force, matter-energy.

How stands the cose on the side of science with its claim of absolute continuity? It was seen above that, according to Patten (p. 19), the origin and growth of stars, suns, earth, plants, animals, man are alleged to be parts of one process, and that one force, one law underlies the ascent from star-dust to man. Has this hypothesis been proved, has science shown that the lifeless or inorganic produced life, or the organic world?

Further, has science proved that mere life becomes mind, that the animal becomes man?

A. THE SPHERE OF MATTER-FORCE; OR MOTION AND ENERGY

Whence is nature, or the physical world known to science? Is it eternal, or has it arisen in time? Is it a creation or an evolution, or in fact both? If the scientist were to allow that God created the physical world, he would logically be driven to allow that this much at least was a "special" creation; but as he on principle denies this, he is tempted to hold that the universe is eternal. Such indeed is the view of scientists who reject the Genesis cosmogony. Thus Professor H. E. Crampton, of Columbia University, writes: "Did things have a finite beginning and have they been 'made' by some supernatural force or forces, personal or impersonal, different from the agencies which we may see in operation at the present time? So says the doctrine of special creation." (*The Doctrine of Evolution*, p. 8.) He holds that the natural laws operative today produced the world and all therein. "This is the teaching of the doctrine of evolution." (Page 10.)

According to Crampton, Patten, C. W. Eliot and scientists generally, one force or energy is back of the evolutionary process, and such force or energy is eternal. Under their view the universe is a vast automatic mechanism. It must be stated, however, that the influential, vitalistic school antagonizes any such view.

1. Difference between Creation and Evolution

Creation is something fundamentally different from evolution and implies that the origin of matter-force, life and personality differs in kind and not merely in degree from what is going on in the universe today. We can settle the question of creation and evolution in a very simple manner. We can show that the laws of nature, as we understand them today, never

produce the three realms mentioned above. This means that another and radically different agent was the cause of the primeval world-order. This line of investigation sweeps away the underpinning of present-day evolutionism. Again, evolution in the sense of a change from the homogeneous into the heterogeneous would be proved if it were made clear that matter-force produces life, and life mind. We pursue both of these methods and hope to show that neither nature nor man today creates or evolves the heterogeneous out of the homogeneous, and that every such alleged creation or evolution is merely a combination of existing elements and factors.

2. Matter and Energy

If science were to regard matter as entirely distinct from energy, the old dualistic conception of matter and energy, matter and spirit would emerge; but since science is for the most part committed to a monistic viewpoint, it construes matter in terms of energy. Professor Tait writes: "The one [matter] is, as it were, the body of the physical universe; the other [energy] is its life and activity." The electronic theory of matter is now generally accepted. Everything is at bottom electricity, it is alleged, which is composed of electrons and protons. "Electrons are elements of so-called negative electricity, and protons elements of positive electricity. . . . The eighty or so known chemical elements are the products of radioactive disintegration. . . . Energy and the electrical elements are the postulates of the new science, the entities in terms of which all explanations of scientific phenomena must be made." (John Mills, *Within the Atom*, pp. 4, 10, 39.) In other words, the new science regards everything, even life and mind, as merely different forms of energy.

That science, which now is largely philosophy, accepts a baldly monistic over against a dualistic distinction between matter

and spirit, is the view of Professor More: "The aim of science is to explain phenomena by a single substance, which we may call either matter or electricity, and to endow this substance with a force of attraction which establishes the positions of the atoms of the substance and gives to them motion. This is undoubtedly a monistic doctrine, since it reduces phenomena to a single principle. From this simple philosophical postulate the physicist, including the chemist who has also followed this method, has attempted to construct a model of the world such that if we know past actions we can predict with a very considerable accuracy what will occur in the future." (*Op. cit.*, 247.) Under this view all the events of the great World War, even the minutest details, could be foretold.

Another says: "If according to science no energy can ever be created or destroyed, plainly mind cannot interfere with bodily processes; and, since man is descended from the lower animals, there is no reason why his actions should not be explicable by the same general laws as theirs." (J. B. Pratt, *Matter and Spirit*, p. 10.)

3. Is Matter-Energy Eternal?

Even if it were affirmed that matter is merely electricity, nothing would be gained, for the question must be answered whether it be a material or immaterial substance. What this energy is, and whether it has existed eternally or was a divine creation, science does not know, but inclines to the view that it is eternal. But such a position gives rise to difficulties. Since matter is imperfect and subject to change, it has no necessary existence and so cannot be eternal. If matter-force were eternal it would be self-moving; but this contravenes the law of inertia, namely, that matter remains at rest until moved from without. Years ago Locke argued that inert matter, having no self-motion, can not produce motion, even as non-entity can

not produce entity. Even if it were alleged that eternal motion co-exists with eternal matter, they could not produce life or mind. Locke's conclusion has never been disproved.

That the history of the earth extends over millions of years has been established by science. It was once in a gaseous or molten state, but it has been cooling for millions of years. It gave off more heat than it received, and, so far as its energy is concerned, it has been and is a dying world. It may, of course, be alleged that this lost energy was carried to other planets and so was not lost absolutely, but only relatively. But this cannot be proved. Hence it is not known scientifically whether such energy is eternal or was created in time.

4. Molecular Motion

Recently the idea of the eternity of matter-force has been suggested in connection with the view of *molecular motion.* It is alleged that the ultimate atoms, electrons, molecules of matter, impinge upon each other, that is, have self-motion. This is at the bottom of the idea of "natural selection" and comes to a head in the scientific idea that inorganic matter becomes of itself organic matter. When the atoms elect to move in one way, a plant arises; when in another, an animal arises, and so on up to man. "The soul of man, just like the soul of animals, is a purely mechanical activity, the sum of the molecular phenomena of motion in the particles of the brain. The will is never free. It depends upon the material processes in the nervous system." (Haeckel, *Creation*, I, p. 179.)

The answer is that mechanical motion obeys an invariable law and, left to itself, never varies in any particular, as seen in the case of gravity, which always acts in one direction. To affirm that the atom chooses to move in this direction or that is to endow it with mind and will. Though this idea has never been verified, it is at the basis of the current doctrine

of evolution. Professor Maxwell, in an address before the British Association, argues that since the molecules of the elements, as of hydrogen, whenever found, execute their vibrations in the same time, they are manufactured articles and preclude the thought of being eternal and self-existent.

5. The Universe as a Self-Originated, Self-Running Machine

The current scientific doctrine, not content to limit the laws of matter to the physical world, unhesitatingly extends them to life and mind in a closed system. It separates nature from God and subordinates spirit to matter. Thought is a mere product of certain forms of motion in nervous matter. Psychology is a branch of biology, this latter of physiology, and this latter a form of mechanics.

The essence of this mechanical view was stated clearly by Haeckel: "The monism of the cosmos . . . proclaims the absolute dominion of the great iron laws through the universe. It shatters, at the same time, the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul and the freedom of the will." (*Riddle of the Universe.*) Haeckel's unpopular creed of forty years ago has become the accepted creed of science today.

Scientists argue in a circle here, explaining matter in terms of energy and energy in terms of matter, or as says More: "If we explain all phenomena in terms of one principle, for example energy, what then is energy? And how shall we explain it except in terms of what we have already declared was explained by energy? Such, it seems to me, is the hopeless problem of all who attempt to build a monistic philosophy." (*Op. cit.*, p. 242.)

More illustrates this current view by the example of a horse drawing a wagon. Some force in the earth "pushes the horse forward"; the horse does not by his own impulse bend his legs

and push against the earth. Such nonsense might be accepted if a hobby-horse could change itself into a living horse and begin to move.

6. Perpetual Motion

The current mechanistic view that matter and energy are eternal is really a return to the exploded hypothesis of perpetual motion. The old idea that a machine could construct itself and run on forever is now abandoned as a violation of mechanical law. No machine is operated by self-generated power. In 1605 Stevinus proved by means of a closed chain and an inclined plane that perpetual motion is impossible. Such, too, was the decision of the French Academy in 1775.

Even if the law of the conservation of energy should be found to be absolutely true, which is far from being the case, it would at most only conserve what exists, and not produce anything new.

7. The Physical Universe not Eternal

The essence of current evolutionism was voiced by Haeckel: "The two fundamental forms of substance, ponderable matter and ether, . . . are endowed with sensation and thought (though naturally of the lowest grade)." (*Riddle of the Universe*, p. 78.) Of this affirmation Sir Oliver Lodge writes: "In order to explain life, mind and consciousness, all that is done is to *assume* that matter possesses these unexplained attributes." Under any such view the universe of matter must be regarded as eternal and infinite—in short, takes the place of God—and by evolution, not by a primitive creation, becomes what it is. In fact, those scientists who endow inert matter with sensation and life are but revamping the view of the Greek philosopher Anaximander, founder of the doctrine of a hylozoistic, mechanistic monism—the view that matter is life.

The claim is constantly made that nature and natural law have created all things, even life and personality. Let the reader, however, turn to More's critique of this view as presented in Conklin's "Direction of Evolution": "He does not tell us how natural law was instituted nor why, if it was instituted, it cannot be superseded by its institutor. Many of us do not see why the idea of an incomprehensible natural law is more rational than the idea of a God. Again, is a universe created out of nothing and set going by a Creator and Ruler a less satisfactory belief than a universe uncreated, or self-created?" (*Op. cit.*, p. 25.)

8. Origin of Matter—Summary

Before the discovery of radioactivity, scientists settled the question of the nature of matter by reference to the law of the conservation of matter-force, namely, that matter can be neither created nor destroyed. But now it is known that elements of high atomic weight, like uranium and thorium, are constantly giving off particles and are thus by loss changed into other elements, such as radium, niton, polonium and lead. As matters now stand, two things are certain: as scientists we do not know how matter originated, but we know that matter is decomposing, and that the universe of matter is running down. In other words, not development and evolution, but degeneration, dissipation, dissolution, devolution, are taking place.

It follows that the universe of matter and energy could not have been eternal, that it was not brought into existence by any known physical or chemical laws. The only alternative is that it was created by God.

So far, then, as the first sphere, that of matter-force, matter-energy, goes, the doctrine of evolution fails absolutely to supply a satisfactory and comprehensive world-view.

B. THE SPHERE OF LIFE

According to the current theory of evolution life must be regarded as a product of the inorganic or lifeless; otherwise the assumed law of continuity breaks down. Unless it can be shown that matter-force becomes in some mysterious way plant and animal life, the doctrine of evolution fails to meet the conditions of an all-comprehensive world-view.

1. Dilemma of Evolutionists on the Origin of Life

Evolutionists are accordingly in a dilemma. Either they must prove that life came from the lifeless or allow that the dogma breaks down where it ought to be strongest. This is admitted by candid scientists. Huxley writes: "If the hypothesis of evolution is true, living matter must have originated from non-living matter, for, by the hypothesis, the condition of the globe was at one time such that living matter could not have existed in it, life being entirely incompatible with the gaseous state." (*Anatomy of Invertebrate Animals, p. 41.*) Professor Joseph Le Conte says: "If life did once arise spontaneously from any lower forces, physical or chemical, by natural process, the conditions necessary for so extraordinary a change could hardly be expected to occur but once in the history of the earth. They are, therefore, now not only unreproducible, but unimaginable." (*Evolution*, etc.)

Professor R. S. Lull of Yale quotes his colleague L. L. Woodruff, professor of biology, as saying: "We thus reach the general conclusion that, so far as human observation and experimentation go, no form of life arises today except from pre-existing life." (*Evolution of the Earth, p. 93.*) Referring to Virchow's contention that every cell is the offspring of a pre-existing parent cell, Professor E. B. Wilson says: "This conclusion rests upon a foundation so firm that we are justified in regarding it as a universal law of development. . . . 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." (*The Cell*, etc.)

2. Vain Attempts to Solve the Riddle of Life

Stubbornly affirming, in the face of facts to the contrary, that the law of continuity knows no exception, radical scientists declare that in some way life came from dead matter. Thus Naegeli boldly asserts: "The origin of the organic from the inorganic is not a question of experience and experiment, but a fact deduced from the law of the constancy of matter and force." Here the law of constancy is assumed as having no exception—a thing never yet proved, and so it cannot be the basis of an argument. Dr. H. C. Bastian in a ponderous volume seeks to prove spontaneous generation and roundly asserts: "New births of living matter have ever been taking place on the earth since the time when such processes first became possible." Unfortunately he does not cite any examples, nor show how they take place.

Professor H. F. Osborn, Columbia University, unflinchingly places himself on record as follows: "The more modern scientific opinion is that life arose from a recombination of forces pre-existing in the cosmos. . . . We may express as our own opinion, based upon the application of uniformitarian evolutionary principles, that when life appeared on the earth some energies pre-existing in the cosmos were brought into relation with the chemical elements already existing." (*The Origin and Evolution of Life, p. 2.*) As the "pre-existing elements" were matter and force, life, under Osborn's view, arose from the inorganic world—an assumption without a shadow of proof. And yet we are told that science deals with facts.

3. Life and Not-Life

Life as we know it today is associated with matter. The

simplest form is protoplasm, regarded as the physical basis of life. It is a slimy, grayish, transparent substance, somewhat like the white of an egg. Chemically it is composed of various fats, proteids, carbohydrates, etc. But what constitutes its inner nature or essence has baffled the wisdom and ingenuity of scientists despite all their retorts and microscopes.

Physically and chemically, all kinds of protoplasm, whether of a blade of grass or of a man, are alike, and yet they are radically different, though the difference is not discernible by microscopes of the highest magnifying power; and for the reason that the stuff is alive. Even dead protoplasm, or its characteristic element, proteid, escapes analysis.

The difference between life and not-life is found in their nature and origin. Both crystals and plants grow, the former on the outside, the latter on the inside. Even movement does not constitute an absolute distinction, for seeds have been known to lie dormant thousands of years and then grow when proper conditions were supplied. Neither growth nor movement is the real difference.

What Henry Drummond said fifty years ago is still true: "No change of substance, no modification of environment, no chemistry, no electricity, nor any form of energy, nor any evolution, can endow a single atom of the mineral world with the attribute of life. Only by the bending down into this dead world of some living form can these dead atoms be gifted with the properties of vitality; without this preliminary contact with life they remain fixed in the inorganic sphere forever." (*Natural Law in the Spiritual World*, chap. 1.)

4. What is Biogenesis?

Though life is associated with matter it is not the product of matter. The old maxim, *omne vivum ex vivo*, "all life from life," still holds true. The scientific word for this is

biogenesis, defined by Webster as "the doctrine that the genesis of living organisms can take place only through living germs or parents." Abiogenesis is the doctrine of "spontaneous generation." According to the Encyclopedia Britannica, "no biological generalization rests on a wider series of observations, or has been subjected to a more critical scrutiny, than that every living organism has come into existence from a living portion or portions of a pre-existing organism."

5. Cows' Milk Manufactured according to Henry Ford

According to the New York *Tribune*, Henry Ford is reported to have said: "It is a simple matter to take the grains the cow eats and make them into milk superior to the natural article. The cow is the crudest machine in the world. . . . Our laboratories have already demonstrated that cow's milk can be done away with." There is, however, one objection to the artificial milk: it sickens babes, just as artificial honey sickens bees.

Ford's idle boast is matched by that of the New Jersey veterinarian who affirmed that he "could make a better cow than God ever made." Up to date neither Ford's artificial milk nor the manufactured cow has been placed on the Chicago market.

Science has many things to its credit, but it cannot manufacture life in any form, whether a grain of wheat or an amœba. As says A. W. McCann: "Science can assemble every element known to exist in the grain of wheat—proteins, nucleoproteins, phosphotides, carbo-hydrates, fats, phosphorus, iodine, chlorine, and fluorine, salts of iodine, iron, potassium, calcium, manganese, sodium, silicon, including the extraordinary substances known as vitamines, but science cannot make the combination sprout in the ground." (*God or Gorilla*, p. 99.)

6. Life a Rejuvenation, not a Creation, says Science

In connection with the Scopes trial in Dayton, Tennessee,

scientists presented to the court in the form of affidavits an elaborate argument for their side of the case, containing some 65,000 words. Among the men contributing papers we find Professor H. H. Newman, University of Chicago; W. A. Nelson, State geologist of Tennessee; C. R. Judd, Chicago; K. A. Mather, Harvard University; Dr. Fay-Cooper Cole, Field Museum, Chicago, and Dr. W. A. Kepner, University of Virginia. The chief arguments, voiced by Professor Mather and covering four columns of the New York *Times*, July 21, 1925, may be regarded as reflecting the latest evolutionistic attitude. It is remarkable as much for what it omits as for what it contains. It claims that there is no conflict between current evolutionism and religion, that the geological eras reveal a steady, uninterrupted advance from the lowest to the highest forms of life, despite the numerous breaks and chasms admitted by most geologists, and that the Java man is a connecting link (though he does not employ that phrase) between man and the ape.

The omissions are glaring and significant. Making no attempt at a definition of evolution (a studied oversight by all the writers of the other papers also), Professor Mather juggles with the word to his heart's content, claims everything "in sight and out of sight" and mixes up in an unparralleled mishmash true and false meanings of the word, to the utter bewilderment of the unprofessional reader and amazement of the thinker and specialist. He fails to distinguish between the old and legitimate use of the word to denote change, progress and development of the homogeneous and of the type, and evolution as a world-philosophy, denoting a change from the homogeneous to the heterogeneous and covering suns, stars, plants, animals and man. Such a procedure on the part of scientists is highly censurable, for it hoodwinks the public into the belief that all this has been proved. He leaves no doubt

that he accepts the current view of one force or energy at the bottom of life and mind.

Most unsatisfactory is his account of the origin of matter and life. As to matter he writes: "Science has not even a guess as to the source of matter. All acceptable theories of earth origin are theories of *rejuvenation* rather than of creation from nothing." "Rejuvenation rather than creation"! Rejuvenation from what? Rejuvenation means "to make young." How can you make young that which does not exist? What a miserable camouflage! It is a new term suggested by the desperate predicament of science in declining to accept the idea of a primeval divine creation. This view certainly reveals in a glaring manner a conflict between science and Christianity.

Then as to life, saying that there is no direct record of whence life came, he continues: "I believe that life as we know it is but one manifestation of the mysterious spiritual power which permeates the universe." It is not quite clear what this is intended to express. If it refers to "the Spirit of God moving upon the face of the waters" (Genesis 1:2), and imparting motion, force, light, heat, etc., it is unobjectionable. In that case God is conceived of as transcendent and prior to the physical universe. This is perhaps Professor Mather's meaning, for he speaks of God as "the author of the universe." If, however, the expression refers to some "power" resident in the universe from eternity and producing life and all things, it is the old pantheism, panpsychism, hylozoism and the *élan vital* of Bergson all in one.

According to Mather, "the primitive cell was the result," not of a creative act of God, but "of the mysterious spiritual power permeating the universe." As Mather writes the pivotal

word *power*, and not *Power*, he seems to have in mind not a person, but merely a force.

7. *Strange Bedfellows at the Scopes Trial*

The Scopes trial was characterized by nothing so much as by the divergent and in fact contradictory viewpoints of the counsel for the defense. Christian theists, believing scientists, noncommittal biologists, infidels and agnostics joined in the effort to make it appear that evolutionism is not anti-Christian, but the true Gospel. At one extreme was Professor Kirtley F. Mather, a Christian theist; at the other Clarence Darrow, an avowed agnostic and fatalist. Their viewpoints mix like fire and water. It looks as if Professor Mather had been pressed into the case to pull evolutionistic chestnuts out of the fire.

(*a*) *Professor Mather's Viewpoint*

We read in the New York *Times* that Professor Mather is a member of the Baptist church at Newton Centre, Massachusetts, and a teacher in its Bible school. His paper contains some fine and correct but damaging statements. He holds that there is "no necessity for choosing between evolution and religion" if in our interpretation of the first two chapters of Genesis God be regarded as "the author and administrator of the universe." He says that the idea of evolution does not dethrone the idea of God in any reasonable mind, "for evolution is not a power, not a force; it is a process, a method. God is a power, a force; He necessarily uses processes and methods for dis-

person, but merely a force.

Whether God be dethroned or not depends upon what evolution is understood to be and how much or little God is understood to do. According to Professor E. D. Cope, evolution is creation, and creation evolution. This view is shared by other evolutionists, as by Professor Patten, who says that "cosmic and organic evolution, the growth of stars, suns, plants,

animals and man are one continuous, all-pervading process of creation." If this position is held by any considerable number of scientists, evolution is no longer a method of God's processes, but a power or force in nature from all eternity, as seen above. How does Mather reconcile these materialistic, monistic ideas of evolution with his own theism?

According to answers to Professor James H. Leuba's questionnaire (*Belief in God and Immortality*), the ratio of scholars believing in the existence of God is: psychologists, 14 per cent; biologists, 16; sociologists, 18; historians, 32; physical scientists, 35. Of the men who answered the questionnaire more than sixty per cent were college and university professors, twelve per cent men employed by the United States Government, and eleven per cent men employed in the various industries. If Leuba's conclusions are even approximately correct, less than twenty-five per cent of scientists are theists in the Christian sense of "a God in intellectual and effective communication with man."

Whatever the number of scientists may be who as a formal concession to the traditional view allow that there is a God of some sort, it seems clear that those who reject the Genesis cosmogony are far in the majority. It is, however, a source of gratification to know that Professor Mather seems to reflect an essentially Christian theism. But the attitude of another Scopes defendant is in marked contrast with that of Professor Mather.

(*b*) *Viewpoint of Attorney Clarence Darrow*

It is well known that Clarence Darrow, the Chicago criminal lawyer, chief counsel for Scopes, is an avowed and uncompromising agnostic, determinist and fatalist. In a press dispatch, September 30, 1924, he is represented as saying: "Our work is all laid out for us. We live on bunk. Our birth, our religion, our marriage are decided by fate. It is a matter of

fate whether a man dies an honored character or dies on the gallows."

In the debate in Chicago, October 26, 1925, between Bishop F. J. McConnell of Pittsburgh and Clarence Darrow, the latter championed the mechanistic theory of the universe and of man, saying, among other things: "If you follow one step at a time, all life may fairly be called a machine, all earth is a oneness; all life is a oneness [the soul included]. . . . The mind is a by-product of human activities. All animal life has it to some extent. The mind is the result of machinery [a secretion of the brain, said the materialists of a generation ago]." According to the Associated Press, Mr. Darrow compared man to an engine; by itself it created nothing; the body returned to the 25 or 30 chemical elements from which it was made and the individual was gone. Mr. Darrow then expressed his agnostic views, saying that he did not know how the universe came to be and that it was an assumption to say how it happened. This again is proof that evolutionists have no adequate world-theory.

It is generally allowed that the agnosticism of Herbert Spencer and Thomas J. Huxley means that all knowledge is relative, uncertain and misleading, that God's existence cannot be known and that the nature of the universe is unknowable. Darrow's view does not seem to be different, except that, being a determinist, he of course denies free agency and bases all human activity on an iron-clad fatalism, which is directly antithetic to theism, the doctrine that, while God is absolute and just in all his relations to mankind and the world, man is a free agent responsible for all his acts. Man in a relatively independent way strangely enough so acts as to attain the divine aim and purpose in history. Darrow could naturally hold that any criminal is driven to his deeds by an antecedent force

over which he has no control. It need not be added that any such scheme is subversive of all laws against crime.

Here, then, we have an avowed Christian and an avowed agnostic or atheist contending that evolutionism, as usually understood, is true and not in conflict with Christianity, but explaining Christianity along the only lines consonant with modern scientific thought. We wonder if Professor Mather has forgotten the episode of the Trojan horse and Virgil's *Timeo Danaos et dona ferentes* ("I fear the Greeks even when they bear gifts"). "Shall two walk together except they have agreed?" (*Amos*, 3:3.)

In other words, evolution, as understood by Darrow and the skeptical scientists of Leuba's questionnaire, is either not the evolution taught by Mather, or is at bottom the same atheistic farrago, only phrased in "*ein bischen anderen Woertern*" —in somewhat different terms. As a matter of fact, however, Professor Mather, with all his professions of belief in the teachings of Scripture, fails to give a clear-cut theory of how much God created and how much he left to development, or evolution in the legitimate old sense.

(*c*) *Liberals and the Devil's Broth at Dayton*

It is significant, too, that the Civil Liberties Union of New York, understood to entertain semi-Christian, if not anti-Christian, principles, rushed to the defense of Scopes and employed Dudley Field Malone and Arthur A. Hays, liberal-minded lawyers, to assist Darrow in ridiculing the Biblical account of creation. In fact, as says the newspaper correspondent Robert T. Small, in a Consolidated Press dispatch: "Dayton has begun to think there are too many cooks in this Scopes case and that the devil's broth, or whatever kind of broth the fundamentalists call this evolution stuff, is in grave danger of being spoiled. There are primary counsel and secondary counsel and

tertiary attorneys, home talent and imported stars of the bar, and they, being many men of many minds, naturally are pulling one way and another."

Small might have added, in the language of Professor Vernon Kellogg: "Evolution is defined in a score of ways, but *not clearly* in any way. Each one defines it for himself, and no two define it alike. . . . We need a general treaty of understanding." (*The World's Work*, May, 1924.) Does not Professor Kellogg see the absurdity of asking people to accept evolution before we know what it is, whether a "gold brick" or the genuine article?

In other words, while all evolutionists were shouting: "Great is the goddess Evolution," at Dayton, "some cried one thing, some another; for the assembly was in confusion; and the more part knew not wherefore they were come together." (*Acts*, 19:32.)

8. Mechanism and Vitalism

Concerning the origin of life there has long been a controversy between the rival schools of mechanism and vitalism. According to the former, life is interpreted in terms of chemical and physical forces and the movements of the smallest particles of matter. According to vitalism, vital phenomena cannot be expressed by merely chemical and mechanical factors, but constitute a realm or sphere distinct from the physical. As seen above, the life-principle appropriates chemical and mineral elements for its use, but "the difference between vitalism and the mechanical theory of life is not that the one regards the processes in the organism as opposed to those in the inorganic world, while the other identifies them, but that vitalism regards life as a combination of chemical and physical processes, with the co-operation and under the regulation of other principles,

while the mechanical theory leaves these other principles out." (Otto, *Naturalism and Religion*, p. 192.)

Both schools can boast able champions. Until the close of the nineteenth century, the mechanism of Holbach, Feuerbach, Buechner, Haeckel and a number of Germans was in the ascendant. Since that time, vitalists have had numerous accessions to their ranks, among them Professors Driesch, Wolf, Reinke, Neumeister and Schneider in Germany, not to mention some Americans, especially Professor Jacques Loeb of the University of Chicago. "These men hold that although we have succeeded in determining the physical or chemical factors that enter into many of the phenomena of life, and in analyzing the conditions necessary or useful in the accomplishment of certain functions, we have not accounted for a single vital phenomenon solely by the combination of inorganic activities, considering it as a whole and taking into account the characteristics that distinguish the organic from the inorganic." (Micou, *Basic Ideals in Religion*, p. 219.)

Loeb writes: "We are not yet able to give an answer to the question as to how life originated on the earth. The gap in our knowledge which we feel most keenly is the fact that the chemical character of the catalyzers (the enzymes or ferments) are still unknown." (*The Mechanical Concept of Life.*)

Not a few scientific experts regard the ultimate analysis of life into mechanical processes as the ideal of their science. Hence zeal often outruns knowledge. "The whole mechanical theory is based upon a law which is not strictly biological but belongs to science in general—the law of the conservation of matter and energy." (Otto, *op. cit.*, p. 194.) But according to the latest physics "the essential postulate of the conservation of matter is contradicted by the quantitative results of every experiment made by us in the chemical laboratory, and no

one knows anything about the quantity of matter in any body not on the earth." (More, *op. cit.*, p. 259.)

"The living machine," as says Claude Bernard, "is characterized, not by the nature of its physico-chemical properties, but by the creation of the machine according to a definite idea. This grouping takes place according to the laws that govern the physico-chemical properties of matter, but what is essential to life's domain, which belongs neither to physics nor to chemistry, is the directing idea of vital evolution."

Fifty years ago Professor John Tyndall in a presidential address before the British Association declared that matter contains the promise and potency of every form of life. In 1898 Sir William Crookes, as president of the same association, reversed the dictum, declaring that *in life he saw the promise and potency of every form of matter.*

Kant, in one of his later works, remarks that it is vain to hope that "some day a Newton will appear who will be able to make even the generation of grass comprehensible by natural laws without the intervention of deity." Modern biologists are wont to say that Kant lacked the requisite knowledge. "But," says More, "it is not a question of more or less knowledge; it is still the confession of *no knowledge* we must make. There is only one way to obtain this knowledge. Let the biologist in the laboratory produce a living cell which has not been derived from other living matter. That would convince us that life is a manifestation of physical energy, just as the physicist has shown in his laboratory that matter does attract matter and has thus verified Newton's law of gravitation. Until he creates a living cell from dead matter, he is in the same class as was Aristotle, who tells us that dust breeds fleas." (*Op. cit.*, p. 247.)

9. Wide Gap between Vital and Non-Vital Matter

It is constantly affirmed that the gap between vital and

non-vital matter is so small as to be scarcely noticeable and that the latter can with suitable conditions become or produce life. Such, however, is not the view of high scientific authorities. Thus Professor Haldane writes: "The physical and chemical conception of the world breaks down absolutely and hopelessly in connection with the phenomena of life, however useful it actually is in connection with inorganic phenomena. It is, therefore, nothing but a working hypothesis of limited useful application." Similarly Lord Kelvin: "The properties of living matter distinguish it absolutely from all other kinds of things, and the present state of our knowledge furnishes no link between the living and the non-living."

Writers like Herbert Spencer, Lewes, John Dewey, and functional and behavioristic psychologists generally, regard life as a mere energy or activity. "Life and mind," says G. H. Lewes, "are processes; neither is a substance; neither is a force. . . . There is, however, a product." (*Life and Mind.*) But how can there be a product without a producer? Dewey writes: "Self is an *activity*. It is not something which *acts;* it is activity. . . . It is constituted by activities. Through its activities the soul *is*." (*Psychology*, 247.) But how can there be activity without a subject that acts?

Herbert Spencer's verbose definition runs: "Life is the definite combination of heterogeneous changes, both simultaneous and successive, in correspondence with external coexistences and sequences." (*Biology.*) This is equivalent to saying that a boiling tea-kettle is alive.

10. Physical Life a Sphere Distinct from Matter on the One Side and Personality on the Other

The foregoing review shows that according to Huxley, Le Conte, Virchow, Drummond, E. B. Wilson, More and others the current doctrine of evolution breaks down, for the organic

world cannot be proved to arise out of the inorganic. In other words, the law of continuity, the cornerstone of evolution, fails in the case of life (which, next to personality, is the root question in this discussion) and consequently fails as an all-inclusive world-view.

In this dilemma, extremists like Naegeli, Bastian, Spencer, Dewey and Osborn boldly affirm that in some unknown way matter produced life. The issue, therefore, is clearly defined. There is no middle ground. Either life is a product of matter-force, or it is a creation. However, it is never safe to say that such and such a thing or event can never be. Years ago an Englishman wrote a book arguing that steam could never propel a ship. But it so happened that the vessel bearing a copy of the book to America was propelled by steam. Hence in this case it is theoretically possible that any day some chemist may prove that life has been produced from lifeless matter.

Hence one should beware of affirming that the desired proof will never be forthcoming. The most that can be said is that, so far as science is able to determine, the two realms are distinct, separated by a chasm unbridged thus far. That, however, is enough to establish our contention.

The trend of the best scientific thought is in the direction of the theory that life is unique and of an order fundamentally different from the inorganic realm. According to R. F. A. Hoernle, a recent British writer: "The concept of life is a distinctive concept, of a different order from physical or chemical concepts, and not reducible to them by analysis. Life is *sui generis*, qualitatively unique." (*Matter, Life, Mind and God*, p. 110.) Other definitions of life convey the same idea, as Haldane's "an active autonomous whole," J. A. Thompson's "an insurgent self-assertion," and the proverbial "will to live," and even Bergson's "*élan vital*."

In other words, "science is unable to analyze the inner nature of life; it is a secret; the scientist who undertakes to analyze it, kills it. The vitalists, who wage war on the mechanists, are in the same dilemma, for they in turn can give no account of the origin of life, and in fact indirectly presuppose something akin to the Biblical view of creation. Between the Scylla of mechanism and the Charybdis of vitalism the whole evolutionistic scheme suffers shipwreck and can be rescued only by the Biblical cosmogony." (A. S. Zerbe, *Christianity and False Evolutionism*, p. 243.)

Some authorities, as Henderson and Hoernle, favor a "teleological" vitalism. It is held that "organisms are individuals, *i. e.*, stable, durable systems maintaining their equilibrium (or self-identity) in the flux of chemico-physical processes." If this view grants consciousness it differs little from psychological vitalism; if it denies consciousness it is only the ordinary vitalism of Reinke and Driesch.

The whole subject may be summed up in the language of the Duke of Argyll: "We know as certainly as we know anything in the physical sciences, that organic life must have had a definite beginning in time upon this globe. If so, then that beginning cannot possibly have been by way of common parentage or ordinary generation. Some other process must have been employed, however little we are able to conceive what it was. . . . All our desperate attempts, therefore, to get rid of the idea of creation as distinct from mere procreation are self-condemned as futile." (*Organic Evolution Cross-Examined*, p. 113.)

C. The Sphere of Man

According to both Scripture and true science, man, in spite of all outward resemblance to the highest animal, is in a class or sphere by himself. Evolutionists are not agreed as

to his origin. Some allow that he is a divine creation; others regard the soul as merely successive states of consciousness, without an abiding self; others agree with Professor Irwin Edman of Columbia, that "man is a mere accident," and that "immortality is a sheer illusion." The great question of the day, therefore, is, what is man? Has he a never-dying soul? Or is he merely an animal, and does he die like a dog?

Since the chasm between man and the highest animal today is wide and unbridged, the doctrine of evolution breaks down in the case of man. To save it, evolutionists have literally left no stone unturned and have gone to the ends of the earth to find the "missing link." What success they have had we proceed to consider.

D. SEARCH FOR THE MISSING LINK

Daily newspapers, magazines and books on evolution convey the impression that man has unquestionably descended from a lower order of animals. In June, 1921, a New York daily said: "None but a fool would dare criticise the theory of man's descent from an ape, because it is the commonly accepted opinion of mankind." If that editor is not a consummate ass he has learned by this time that no scientist of rank now holds that man has descended from an ape and that the "commonly accepted opinion of mankind" is the other way.

1. Exhumed Ancient Skulls and Evolution

Charles Darwin having declared that all forms of life, including plants and animals, were descended from three or four progenitors, it was a natural inference that man was included in the sweeping assertion. There were, however, no facts in support of the proposition, but it was necessary in order to render the evolution hypothesis complete and symmetrical. As matters stood, the chain connecting man and the

ape lacked some important links. If, now, the skull, teeth, arms or legs of some animal, as an ape or chimpanzee, should be found in some part of the earth and be made to appear to resemble man, the desired missing link would be supplied and the argument would be complete.

During the last thirty years such supposed "links" have been found. Just as in the case of fossils of extinct animals, so here, fragments, and small ones at that, have been unearthed, necessitating "restorations" of the missing parts according to the ideas of the restorer. Hence from a small part of a skull, jawbone or pelvis an enterprising scientist with a vivid imagination undertakes to show what the creature looked like 500,000 years ago. The procedure is the biggest humbug of the age. The "restorationists" are cunning psychologists and believe, doubtless, that a "sucker" is born every minute.

The American Museum of Natural History in New York contains the largest and most carefully prepared collection of supposed pre-human, semi-human or human skeletal remains in the world. They were "restored" by Professor H. F. Osborn with the assistance of other scholars. The reader who visits the Field Museum in Chicago will notice that the "restorations" of man exhibited in the rotunda are fac-similes of the New York collection.

2. Description of the Restorations

In the New York Museum are five glass-covered cases containing the restorations. Aiming at accuracy, we quote liberally from an article by Professor Osborn in Vol. XX of *Natural History* (the journal of the Museum), as also from his "Men of the Old Stone Age" and from his article, "Where Did Man Originate?" in *Asia*, June, 1924. In the former publication we read: "On the right half of Case I are arranged the skulls of certain anthropoid apes— (1) gibbon, (2) orang,

(3) chimpanzee, (4) adult gorilla, (5) young gorilla, while on the left are models of skulls of the known races of man [observe the words "known races of man," not of ape-men], (7) Piltdown, (8) Neanderthal, (9) Talgai [skull, however, of an Australian black boy shot and buried on the spot in 1848, according to Archibald Meston, Chief Protector of Australian Aborigines], (10) Cro-Magnon, (11) recent. Between these two groups have been placed a restoration of the skull and of the head of the Trinil or ape-man of Java (*Pithecanthropus erectus*) and a cast of the actually discovered brain-case and two of the teeth." (Page 231.) Pithecanthropus is Greek for ape-man.

Chief objects in Case II: "The most ancient fossil relic of man is the massive jaw which was found near Heidelberg in deposits of the second Interglacial stage [guesswork] perhaps as early as 200,000 B. C. A skull has been modeled to fit this jaw [and to fit the evolutionary hypothesis] by Professor McGregor. . . . The size of the brain is more doubtful, but it was at least of the type of the Neanderthal skull."

Case III contains restoration of the alleged "immediate predecessor of modern man, the Neanderthal race, of the Middle Old Stone Age in Europe, from about 50,000 to 25,000 B. C." We read: "A race of long-headed men was established over Western Europe before the last Glacial period. . . . These represent what is probably a distinct species of man (*Homo neanderthalensis*)."

All the proof for the claim that man has descended from some lower order is contained in these three ordinary-sized cases. The actual original "finds" furnishing the basis for the exuberant fancy of the "specialists" would not fill a half-bushel measure. The Hall of the Age of Man might well be called Hall of Fictions Extraordinary.

3. Beginning of Man according to Evolution

Since, according to science, the amœba gradually developed into a man, it becomes an interesting problem to determine when an animal, as an ape, ceased to be an ape and became a man. Osborn allows that "man is not descended from any known ape, either living or fossil, but a hypothetical ancestor [that is, a guess is made the basis of the elaborate argument—fine logic!] of this entire anthropoid group, founded on a jaw discovered in Egypt, is the *Propliopithecus Haeckeli.*" Uncommonly clever reasoning: "a jaw [who knows what kind of a jaw?] discovered in Egypt" is the "hypothetical ancestor" of hypothetical "ancestors of anthropoids," the alleged ancestors of the Piltdown and Neanderthal man, the hypothetical ancestors of the present human race. Like the augurs of old, the Osborn contingent must chuckle in their sleeves in thus "putting one over" on a sleepy public.

The region of the globe in which man originated is in dispute. According to Professor Osborn, the Age of Man began 500,000 years ago in some region of Asia not yet explored by paleontologists. Recently, however, Professor H. J. Spinden of Harvard has revived the hypothesis of an African origin. See New York *Times*, Feb. 15, 1925. Osborn admits that "fossil remains of man are exceedingly rare. . . . Only two races, the Heidelberg and the Piltdown, are certainly known [that is, if far-fetched inferences constitute knowledge], from the river drifts and gravels before the period of burials." Osborn writes: "Man has a long line of ancestry of his own, perhaps two millions or more years in length."

There being absolutely no proofs of a missing link, scientists have of late taken the position that both apes and men have sprung from a semi-ape, one stage earlier. Hence, says Spinden, evolutionists are not looking for proofs of a missing

link because "your thoroughgoing evolutionist looks at life as one continuous and expanding existence, leading from lowly organisms of one cell up to the highest animals." (N. Y. *Times.*) In other words, your up-to-the-minute scientist does not look for facts, but forces things into his procrustean bed of continuity. By the way, what is "*a mist of the infinite*," in which, according to Spinden, life originated?

At the same time, evolutionists none the less are almost every day finding traces of missing links. Dr. R. L. Ditmars announced in the New York *Evening Telegram*, August 28, 1921, that an expedition headed by Roy Andrews and fully equipped was to penetrate the interior of Thibet in search of the missing link. There are many "low-brow" apes, but Ditmars was certain that "high-brow" apes abound in Thibet and he proposed to corral some and introduce them to New York society. An Associated Press dispatch under date of November 4, 1925, announced that Andrews had just arrived in San Francisco from the "cradle of life" (so-called) with a large collection of fossils of the Stone Age, but with no fossils of apes or primitive man. Thus after four years another bubble has burst.

4. Chronological Sequence of Fossil Men

Professor Osborn and his co-laborers seek to show that, beginning with the hypothetical *Propliopithecus* of Haeckel, the fossil men can be arranged in a gradually ascending scale from the Piltdown (possibly the Foxhall), Java, Heidelberg, Neanderthal and Cro-Magnon man up to modern man. Unfortunately, geologists are not agreed on the exact dates of the geological eras. The Encyclopedia Britannica says: "No one who has made himself familiar with the actual composition of these formations, and the detailed structure of the terrestrial crust, can fail to recognize how vague, imperfect and

misleading are the data on which such computations are founded."

Accordingly we find that Amadeus Grabau in his two-volume Geology differs widely from Osborn on the date of some of the fossils under review. Thus, Osborn's dates are: Heidelberg, 200,000; Piltdown, 500,000 B. C.; Grabau's: Heidelberg, 360,000; Piltdown, 125,000, B. C. Here is a difference of 160,000 years in the case of Heidelberg and of 375,000 in that of Piltdown. Grabau places Trinil in 500,000 B. C., approximately. As Trinil, according to Osborn, is older than Piltdown, his period is of course prior to 500,000 B. C. "It is not impossible that this ape-man [Trinil] is related to the Neanderthal man." (Osborn.) If Neanderthal flourished 75,000-40,000 B. C., we still have the incredibly long period of 450,000 years between Trinil and Neanderthal. What credence can be placed in a method which leads to such contradictory conclusions?

Accepting, however, for the sake of comparison, the Osborn scheme, we have something like the following: Java, 600,000 B. C.; Piltdown, 500,000; Heidelberg, 250,000; Neanderthal, 75,000-40,000; Cro-Magnon, 20,000-16,000. It may be added that in an article in *Asia*, June, 1924, Osborn still further complicates the situation by the introduction of a so-called Foxhall man, "known only by his instruments and his fireplaces," and placed by Osborn in 600,000 B. C. Was ever such playing fast and loose with figures known in all history? Dr. Arthur Keith writes: "The evidence in favor of the antiquity of this specimen is only presumptive." Has Osborn forgotten his bad "break" in designating the skull of a man killed in 1848 as the *Talgai* living 25,000 B. C. and spuriously placing him just before Cro-Magnon? *Ab uno disce omnes.*

To complicate matters still further, Professor H. H. Wilder (*Man's Prehistoric Past*) comes forward with the claim that

Bruenn II, not mentioned by Osborn, but a type of *Homo sapiens*, flourished in 25,000 B. C. and that a peculiar species called *Dryopithecus* (oak-ape) fashioned eoliths, or worked stone implements. But the Encyclopedia Britannica says that its supposed relationship to man "is discountenanced by the great relative length of the muzzle and the small space for the tongue." Such discrepancies among specialists throw doubt on the whole skull argument.

5. Restorations in the New York Museum

Since the Osborn-Knight-McGregor classification has been widely copied throughout this country, as by the Field Museum, Chicago, and in other cities, and is adopted by H. G. Wells, Van Loon and Patten and in nearly all text-books on geology and biology, it is well to inquire whether even the forced and arbitrary manipulation of skulls and bones really supports the evolutionistic assumptions. If we proceed from the known to the unknown, from modern man to the alleged earliest fossil men, we make some interesting discoveries.

It is allowed on all sides that the men of the late and early Stone Age and even of the Old Stone Age (12,000 B. C.) were true men. Wherever they originated, whether in Asia, Africa or elsewhere, they had a rude and yet a somewhat advanced civilization, as shown by flint and stone implements, carvings and paintings. They had, however, no written language; and without a written language and extant written documents, authentic history is impossible. Prior to this age, all is a matter of speculation. When Osborn, Conklin, Patten, Coulter and their kind talk of two, three, four, five hundred thousand and two or three million years, they convey the impression to unsophisticated minds that everything is recorded in black and white and that none but an ignoramus can question their jugglery of figures. When we reflect that Accadian,

Babylonian, Egyptian records go back at the farthest to about 6,000 B. C., and that much of what is handed down is capable of varied interpretation, we are compelled to consider the reckless use of astounding figures by scientists as nothing short of outrageous camouflage. But as a matter of fact, it matters not how far back we go, even two million years, as is now the vogue among some scientists, we find, not ape-men, but veritable men, albeit low in culture.

(*a*) *The Cro-Magnon Man*

Back of the Old Stone Age are the so-called Cro-Magnons (20,000 B. C.). The writer of the article "Archæology" in the Encyclopedia Britannica assigns them a high rank: "We are dealing with human beings [observe the phrase "human beings"] whose intellect, to judge by their physical characters, should be on a level with that of the Fuegian or the Australian black." The whole hypothesis of the Cro-Magnon man and race rests on somewhat slender data: two skulls discovered in 1867 at Furfooz, Belgium, three skeletons found in 1868 in another place, two skeletons discovered in the Grimaldi Grotto, Mentone, and two skeletons found in 1914 near Bonn, Germany.

It is obvious that with such slender and disconnected data the imagination has free scope in constructing a theory. And so we find Professor Osborn saying: "The highly evolved Cro-Magnon race entered Europe from the east [how does he know?] and drove out the Neanderthals [hence, as being of a different race and lineage, they were not genealogically connected with the Neanderthals, and so the continuity is broken]. This was a race of warriors, of hunters, of painters and sculptors far superior to any of their predecessors." (*Op. cit.*, p. 236.)

It is difficult to reconcile Osborn's account of the Neanderthals and the Cro-Magnons. On page 234 of the work cited

the Neanderthal race is said to be "the immediate predecessor of modern man." And yet, as just seen, and as elaborated on page 235, "a highly evolved race in no respect inferior to modern man entered from the east and drove out or exterminated the Neanderthal race." How can the Neanderthal race be the predecessor of "modern man" if he was exterminated or at any rate "driven out"? The only point which we care to emphasize here is that both the Neanderthal man and the Cro-Magnon man were men and not apes or half-men. This takes us back to at least 75,000 B. C., according to evolutionistic chronology.

(b) The Neanderthal Man

The most famous of all the fossil men is the Neanderthal, famous because he was the first to be resurrected (1856, Westphalia, Germany) and because he is regarded as the type from which we can judge of men before and after him, despite the slurs cast on his character by Osborn and others. Not much of him has been resurrected; no flesh, heart, lungs, brain or hair, but at most only a thigh-bone, well preserved, some arm-bones, fragments of forearm, pelvis, shoulder-blade and a rib. From these fragments he has been "reconstructed." The bones in general are not unlike those of a modern man, but the skull causes difficulty. It is not exactly like the skull of the average man. Dr. Alex Hrdlicka writes: "The forehead is very low and also slopes markedly backward; nevertheless it presents a moderately defined convexity. The sagittal region is oval from side to side, much like that of man today." *(The Most Ancient Skeletal Remains of Man.)*

A low forehead is not necessarily proof of inferior mental power; else Sir Henry Irving, the actor, and the Marquis Lafayette, of Revolutionary fame, might be classed as morons. Then, too, as to skulls in general there is no absolute standard.

In an assembly of 500 men one sees skulls of all shapes and sizes, men with small heads and great mental power and men with large heads and inferior mental force. Again, how do we know that the Neanderthal man was an average man and not lower or higher than the average? In fact, doubt exists on all these points.

And yet Neanderthal does not suffer in brain capacity in comparison with others. The brain capacity of the Widdas, of Ceylon, is 960 centimeters; that of the men of Central Europe, 1303; of the women, 1,300; that of the average man of today, 1,240, and Neanderthal, as given by Huxley, 1,230; by Schwalbe, 1,234; by Osborn, 1,408. It is difficult to see how Osborn makes out that the Neanderthals were inferior to the Cro-Magnons. In fact, says Professor Macnamara, "the average cranial capacity of selected thirty-six skulls of Australian and Tasmanian blacks is even less than that of the Neanderthal group." Where is the evolution?

(c) The Heidelberg Man

It is quite a leap from the Neanderthal man of 75,000-40,000 B. C. back to the Heidelberg celebrity of 200,000 B. C. Osborn writes: "The most ancient fossil relic of man is the massive jaw which was found near Heidelberg in deposits of the second Interglacial stage. . . . A fossil which may be 250,000 years old. . . . It would seem that in the jaw and probably in all other characters of the skull, as they become known [how can they become known?], the Heidelberg race will be found to be a Neanderthal in the making." (*Men of the Old Stone Age*, p. 100.) Certainly most of this is pure conjecture. Hrdlicka remarks: "There can be but little hope that other parts of the same skull or skeleton will ever be recovered." (*Op. cit.*, p. 23.)

No scientist has been able to supply proof that these frag-

ments are of the alleged remote period. Professor Mather in the above-mentioned affidavit says: "The jaw resembles that of modern man; its sides are nearly parallel; the canine teeth are only a little higher than the incisors and molars. But it has no chin at all." One sees on the street every day men with little or no chin, and yet they are men, not apes. "Scientists classify that creature as a member of the same genus to which modern man belongs, but as a different species." If according to Mendelian and Weismann laws there are no new species, and if, further, Conklin is correct in saying that "everything is produced after its kind," the distinction between genus and species in the case of man is invalid. The creature was man or nothing.

(d) The Piltdown Man

The so-called Piltdown man is considerable of a puzzle for all experts. Professor Osborn writes: "Of great antiquity, perhaps 500,000 B. C., are the fragments of a skull discovered at Piltdown, England, in conjunction with a number of flint and fossil . . . and a jaw which is a matter of controversy." (Page 233.) A crucial question is whether the skull, jaw and teeth belong to the same or different creatures. Sir Ray Lankester holds that the jaw and the skull could not have belonged to the same creature. According to the German naturalist Schwalbe, "the proper restoration of the Piltdown fragments would make them belong, not to any preceding stage of man, but to a well-developed, good-sized *Homo sapiens*, the true man of to-day."

Sifting the immense mass of literature on Mr. Piltdown, we reach the conclusion that he was a man and not an ape-man. Probably most scientists would agree with Professor Lull: "The skull was nicely balanced on the neck, implying an erect posture, a rather modern-looking cranium." Piltdown would,

therefore, seem to have been a man, but in a low stage of culture. If Professor W. B. Dawkins is correct in assigning him, not to the Pliocene age, as is done by some others, but to the Pleistocene, Osborn's date of 500,000 must be reduced by several hundred thousand years.

(e) The Java or Trinil Man

We come now to the most talked of celebrity of the skull and fossil variety in all history, or rather absence of history, the Java or Trinil man, so named after the island of Java and the hamlet Trinil, the place of discovery. The extant parts of this famous character consist of a small part of a brain-pan, two molar teeth and a piece of a thighbone discovered in 1891 and described by Dr. Eugene Dubois at a Congress of Zoologists in Leyden in 1895. The scattered bones were found fifty feet apart. There are no means of knowing whether the two teeth belonged to the same jaw, or whether the skull and thighbone are those of the same creature.

The Osborn "reconstruction" is the keystone of the arch so carefully constructed by the ape evolutionists. Professor Mather writes: "The name ape-man describes him exactly; he was intermediate in body structure [how does he know?] between the apes and man. He lived 1,000,000 or 2,000,000 years ago." Osborn is more modest in his date of 500,000. Does any man in his senses believe that these few scattered bones, lying in a gravel pit near a rushing stream, and subject to fire and flood, can be shown to have been preserved even a hundred thousand years, much less ten or twenty times that long?

But Osborn, Wells, Mather are behind the times, for according to admissions by Dubois the whole idea that Trinil was an ape-man must be abandoned. After a silence of thirty years Dubois finally in 1923 allowed scientists to inspect the bones in his home at Haarlem, Holland. Dr. A. Hrdlicka writes in

the *Daily Science News Bulletin*: "*Pithecanthropus erectus* will assume an even weightier place in science than it has held up to now. *None of the published illustrations or the casts now in various institutions are accurate* [including of course the Osborn fabrications in New York]. Especially is this true of the teeth and thighbone. The new brain-cast is very close to human. The femur is without question human. The remains consist of the skull-cap, now thoroughly cleansed for the first time, the femur, three teeth, two molars and one premolar." This means that the Java man is not the "missing link" and that the whole Osborn-Knight-McGregor "reconstructions" are fit only for the *junk-pile* or the gehenna of fire.

6. *Few Traces of Man's Early Ancestry*

The preceding review of the facts relating to fossil men shows clearly that, proceeding from the latest to the earliest period, we find that the Stone Age, Cro-Magnon, Neanderthal, Heidelberg, Piltdown and Java men were not "missing links," but real human beings, though at first very low in culture and attainments. They were, however, as we shall see presently, on an average as highly endowed as the native Australians and Tasmanians of today. Evolutionists have accordingly abandoned the idea that man sprang from the ape and now claim that both man and ape sprang from a common ancestor. There is no proof of such an ansector so far as fossils go. This falling back on an alleged earlier ancestor is of course an admission that evolutionists have lost their case. Branca, an evolutionist, states that the sum total of fragments of anthropoids is a paltry nine. There are four kinds known only through a single tooth, one kind known only through an upper jaw, one kind through a thighbone, one kind by a skull and two through upper and lower jaws.

During the thousands and millions of years of which scien-

tists speak so glibly one may reasonably expect to find many ape fossils and missing links. Alfred R. Wallace states the case fairly: "If there was a common ancestor of all the present ape-world and man, why have we the four kinds of anthropoid apes and the many kinds of monkeys, all living in the world at present, and why have all the representatives of the humanoid stem, as it is called, disappeared entirely? What possible cause can be assigned for the disappearance of all that did not attain to the form and stature of man?" The absurdity of the situation is that we are asked to accept as facts mere guesswork in order to bolster up a preconceived and arbitrary hypothesis.

7. *No Fossil Ape-Men in America*

While it is certain that Mound-Builders, Bluff-Dwellers and other races lived in America much earlier than formerly supposed, all efforts to find ape-men in America have proved failures. In May, 1922, there appeared in the *Journal of the American Museum* an article by Professor Osborn, announcing that a molar tooth found in a Pliocene deposit in Nebraska resembled that of the Java man, living 500,000 years ago. He accordingly, on the basis of that scrap of evidence, proceeded to christen the babe with the high-sounding name *Hesperopithecus*, or Western Ape-Man. Dr. Smith Woodward, of the English Museum, burst the bubble by showing in *Nature*, June 10, that it was the tooth of a Pliocene "bear." We have seen no notice that Osborn has admitted his unfortunate "break."

Other frauds of similar character were the Santa Barbara *Homo Barberensis*, the Los Angeles skulls, the Mississippi man, the Cardiff Giant, the Calavaras man and the Lansing man. The one creating the greatest excitement in the summer of 1923 was the Santa Barbara man, which was claimed to be even earlier than Trinil, at least 1,000,000 years B. C. It was proved, however, by a number of geologists, including Dr. A. S. Stark,

of the University of California, Dr. W. S. Kew, of the United States Geological Survey, and Dr. R. T. Hill, a retired geologist of the Smithsonian Institute, that the "find" belonged to a type of real human being living about 5,000 years ago. This case is another illustration of the ease with which a gullible public may be camouflaged.

8. Colossal Fakes Anent Skulls

The most colossal hoax of the age is the Osborn-McGregor idea that the race, age and mentality of skulls dating from ten thousand to a million years ago can be determined absolutely. One of the questions discussed at the meeting of the American Philosophical Society in Philadelphia, April, 1924, was whether the character of the skull has much to do with brain power. Dr. F. Boas in an elaborate paper argued that "no scientific method has been found of measuring the fundamental capacity of different races, as distinct from the mental and moral development due to custom, history, economic and social environment." See New York *Times*, April 26, 1924. Dr. A. Goldenweiser also presented facts to show that skull size and contour prove little as to intelligence.

The reason is obvious. The science of craniology is in no such state that one can determine absolutely the race, period or mentality of a skull, and least of all, of such fragment as a chin or skull-cap. One sees on the street every day long-headed men, short-headed and flat-headed men, men with short chins, men with long chins or scarcely any chin at all, men with thick skulls, men with high foreheads, men with low foreheads—so that no one can determine the intelligence from the skull. Such being the case, the Osborn "reconstructions" have little if any scientific value in any serious discussion.

As these lines are being penned there comes to hand a volume of the scientist Dr. G. B. O'Toole, professor of animal biology

in Seton Hill College, on "The Case against Evolution," in the preface of which we read: "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." He quotes with approval from a French scientist who says: "If one takes his stand upon the exclusive ground of facts, it must be acknowledged that the formation of one species from another species has not been demonstrated at all."

On the subject of "Skulls" O'Toole confirms our own view in the following strong language: "Doctor McGregor's genealogy of man displayed in the American Museum is quite as much the fruit of imagination as Jaggar's Kilauean fantasy" (a fiction about one of the Hawaiian Islands). In short, O'Toole reaches the conclusion that, spontaneous generation being a myth, both life and man must have originated in special creative acts of God.

9. The Andrews Water-Haul in Thibet

In continuation of what was said above regarding the search for "high-brow apes" to be introduced to the *bon ton* of New York, we give a further report of the Andrews expedition to Thibet and the sum total of discoveries. From the full account in the New York *Times*, November 11, 1925, we learn that Mr. Andrews returned "with forty new dinosaur eggs, the skulls of six new types of mammals which lived contemporaneously with the dinosaurs and the tools of ancient stone age people that once lived in the heart of the Gobi Desert in Mongolia." Primitive flint instruments "of early human beings were discovered near the very center of the Gobi Desert, near the place where the Dinosaur eggs were discovered three years ago. . . . The primitive mammals, whose skulls were found, varied from the size of a mouse to that of a rat. . . . These six skulls are of prime scientific interest and importance, and alone justify the

cost of the expedition. . . . Other interesting fossils belonged to several great families of animals which had been represented only by specimens found in America."

All this and very much more that we cannot reproduce is exceedingly interesting. But we read: "The expedition has failed so far to obtain evidence that the forerunners of human beings dwelt on the Gobi Desert, but it has succeeded in producing the first proof of man's existence in the Gobi Desert at a fairly early period. The earliest human relics which were found were tools belonging to a race which lived there some 50,000 to 100,000 years ago. They were represented by crude stone scrapers of the Mousterian type which are associated with a primitive type of human like the Neanderthal man." In the more advanced stone age were found "thousands of flint chips, scrapers, drills, hammers and old fireplaces. And at a still higher level finely worked spear-scrapers, steel arrows and spear-points and some crude handmade pottery."

These "finds" show that a somewhat advanced culture existed in the Gobi Desert thousands of years ago. But, so far as the report goes, it was a civilization of human beings and not of apes or semi-apes, or "high-brow apes." Since the real purpose of the expedition when it set out four years ago was to convince the world that a true ape-man existed, the net result so far as a "missing link" is concerned is a great disappointment, a water-haul in short. They seem to have found about everything else but what they were looking for, and so must have returned with no little chagrin.

E. THE QUESTION OF THE SOUL

To get at the bottom of the many ramifications of the doctrine of evolution one must have a clear idea of what is involved in its world-view, both of nature and of man. Is there a soul as some kind of entity or existence, or has man merely

an animal existence? If he is more than an animal, how did he become so? If he is a responsible agent, how and when did he become so? Does he die like an animal, or is he in some sense immortal?

1. What Is the Soul?

In modern usage the word *soul* has several well-defined meanings. First, it denotes a substantial entity capable of existing by itself and apart from the body, the undying part of man; then a human being, as in Shakespeare, "My lord, this is a poor, mad soul"; finally, disembodied spirit, as when Milton says: "Every soul in heaven shall bow the knee." The Latin is the only language which has two words to express the two fundamental meanings of the Hebrew *nephesh* and the New Testament *psyche*, namely, *anima*, the animal life in animals and man, and *animus*, the rational element. Man is what he is by virtue of his soul. He has a body, a spirit, various dispositions, but these arise out of the nature of the soul.

2. Man a Living Soul

All this is brought out more fully in Genesis 2:7: "Jehovah God formed man out of the dust of the ground and breathed into his nostrils the breath of life, and he became a living soul." This is a graphic way of saying that man consists of a dual nature, material and spiritual. Man combines in himself the lower and the higher; he is the connecting link between two worlds, the earthly and the heavenly. He may degrade himself to an animal or he may become an angel of light.

The method of man's creation is not disclosed. Whether the body be an immediate or mediate creation is a question of minor importance, so long as we hold that our heritage is from God. The bodily organism may, like that of the beast, have been produced from the existent elements, but the complex being man was now called into existence as a new creation.

We do not adopt the view of some that God endowed an ape or chimpanzee with a human soul and spirit and so made a person out of it, but we hold that the soul-spirit of Genesis 2:7 and the image of God, 1:27, imply a direct creation *de novo*. Therefore the animal, as impersonal, will not live hereafter. It is useful to man here, but is not essential to spirit-life in the next world.

3. Actualism, or the Soul Merely a Series of Experiences

In every age, and especially the more recent, there have been schools of thought which, like the materialistic, have taught that the soul is a mere secretion of the brain, or, like the Associationists, have held that what is called the soul has no existence, but is a mere stream of consciousness. Psychologists may be classified in various ways, but for our purpose they fall into one or the other of two groups: Actualism or Phenomenalism on the one hand, and Substantialism or Spiritualism on the other. According to the former there is no such thing as the soul; what is called the soul is merely a stream or succession of states more or less conscious. Under this view it is idle to speak of the existence of the soul after death, since man dies like the animal. This view is widely entertained in scientific circles.

4. Arguments of Actualists

The chief arguments of actualists are: 1. We know merely states of consciousness, and these do not prove the existence of the soul. There is at most but a force or energy of some kind back of the successive states. Some of the adherents of this view discard the word *soul* and employ such terms as *force* or *energy*. They make psychology a branch of biology, and that of physiology, and that of physics. 2. Consciousness is merely a stream of passing events, with no abiding self under-

neath. 3. The soul has no existence apart from the body and is in fact at bottom the result of matter-force. This is the view underlying false evolutionism, pragmatism, bahaviorism, the functional psychology and much of current science. We turn now to the alternative view.

5. Substantialism, or Spiritualism

The old, traditional view is that of substantialism, or spiritualism, known also as personal idealism, according to which the person is an abiding self, essentially, though not empirically, the same from day to day. The chief arguments are: 1. Self-observation on consciousness reveals three fundamental facts, namely, a multitude of ideas which come and go, the unity of consciousness, and the union of the successive states into the oneness of self-consciousness in the form of a single unchangeable self or I. The essence or entity of a thing ever endures, even though the states change. The oak is the acorn in a different form. 2. Our self presents itself to us as one and indivisible amidst all the changes of the soul states, which is not possible under the other view. Thus I remember that on a certain day in the summer of 1885 I was in the Pantheon, Paris, attending the funeral of Victor Hugo. It requires something static to record flowing events. 3. The true ground for the doctrine of soul-substance is the unity of consciousness; it is a fact that we unite simultaneous psychical conditions into the strictest unity and that we relate our ideas of years past to one and the same spiritual center, the soul.

6. Actualism in Modern Times

Such are the arguments for the two views. Each school has able defenders. In recent years actualism has been defended by Herbert Spencer, Cornelius the pragmatist, and William James. The foundation of the theory was laid by Spinoza, who taught that mind and matter are parallel manifestations

of a deeper reality and that consciousness and ideas do not imply a soul. Hobbes, Hume, the two Mills and Spencer boldly developed the theory and exalted ideas and consciousness to the rank of entities. They conceived of ideas as not needing a thinker. Actualists or phenomenalists differ widely among themselves, there being on the one hand such avowed materialists as Karl Vogt, Louis Buechner and J. Moleschott, and on the other such authorities as Wundt, Muensterberg and James, who, however, at times lay down principles which really favor substantialism or personal idealism.

According to Wundt, the soul, though no substance, but a logical physiological unity, is implied in mental processes. He allows that the term soul so thoroughly permeates psychology and is after all so useful that it may be retained. Muensterberg holds that there is no psychic substance; nevertheless the soul is in a sense abiding because its reality in temporal efficiency is not influenced by the object phenomena in time. Hoeffding, the great Danish psychologist, says that we must distinguish between the soul in the narrow sense of animal life and in that of mind or consciousness.

Some American psychologists scarcely ever get beyond the dictum that the soul is merely a vital force, not essentially different from that of the animal, but only more "evolved."

7. *Professor William James on the Soul*

The late Professor William James of Harvard, a psychologist of international repute, built up an American school of psychology. It is a source of regret that his discussion of the nature of the soul or self in both his larger and smaller Psychology is exceedingly unsatisfactory. He cogently states the arguments for spiritualism—so forcibly, indeed, that he might be supposed to accept the logical conclusion; but he finally declares that the term *soul* expresses nothing and guarantees

nothing. He writes: "I feel entirely free to discard the word *soul* from the rest of this book. If I ever use it, it will be in the vaguest and most popular way." (*Principles of Psy.*, I, p. 350.) James, as Hoeffding says, teaches a psychology without the psyche or soul, as do most of his followers. James adopts the old view of the Associationists that the soul is only a stream of consciousness, or of thought, saying that thought itself is the only verifiable thinker. He does not explain how there can be thought without a thinker.

James is refuted by his admission that the spiritualist doctrine of the soul is the only means of escape from the untenable mind-stuff hypothesis and materialism. He writes: "The principle of individuality within us must be substantial, for psychic phenomena are activities, and there can be no activity without a conscious agent. This substantial agent cannot be the brain, but must be something immaterial; for its activity, thought, is both immaterial and takes cognizance of immaterial things, and of material things in general." (*Op. cit.*, p. 343.) This implies the weakness of actualism.

8. Substantialism in Modern Times

In modern times the theory that the soul is a real and substantial subsistence has prevailed so largely that it reflects the position of the leading philosophers and psychologists. Descartes, Leibnitz, Kant, Hegel, Trendelenburg, Lotze, Ulrizi, Bradley, Stout, J. M. Baldwin, Royce, Ormond, Hyslop, etc., are substantialists, though differing on minor points. These men, whether idealists or realists, entertain a high view of the soul and so are logically driven to the doctrine that the soul is an abiding entity, or personality; otherwise it would be a contradiction to speak of mental activity. As Hoeffding says, Plato was the founder, Descartes the rediscoverer and Lotze the most distinguished modern champion of substantialism.

Lotze argues that the soul must be viewed as a spiritually-substantive entity, capable of thought and action, not as a hard, impenetrable atom, but as a person with all this term implies, as self-consciousness and self-determination. Both he and Ulrizi hold that the soul is an undivided, immaterial substance whose characteristic is the power of controlling mind and body.

9. Responsibility and Immortality

Two considerations weigh heavily in favor of the substantialistic view: human responsibility and immortality. How can a man be held responsible here and hereafter if the soul is a mere succession of experiences, a stream of ideas, a mere vapor? Professor James felt the force of this when he wrote: "The mere stream of consciousness, with its lapses of memory, cannot possibly be as responsible as a soul which is at the judgment day all that it ever was."

Again, how can we speak of immortality in any sense if the soul be a mere bundle of ideas and sensations? Here again James states the issue squarely: "For immortality the simplicity and substantiality of the soul seem to offer a solid guaranty. A stream of thought, for aught that we see to be contained in its essence, may come to a full stop at any moment; but a simple substance is incorruptible and will, by its inertia, persist in being so long as the Creator does not by a direct miracle snuff it out. Unquestionably this is the stronghold of the spiritualistic belief—as indeed the popular touchstone for all philosophies is the question, What is their bearing on a future life?" (*Principles*, I, 348.)

10. The Seat of the Soul

The question is sometimes asked, In what part of the body is the soul? This is a meaningless query, for the soul as an immaterial entity has no location. Like a mathematial point, it

has position but not magnitude. Nevertheless we may ask, Where especially is it most active dynamically? I am mentally present in the British Museum when I see a picture of it, but I am not bodily or dynamically present there, that is, I work no effects. If by the seat of the soul we mean only the place where it is most dynamically present, that center is somewhere in the cortex of the brain. Descartes placed this in the pineal gland, a conical organ in the posterior part of the cerebrum. Lotze and Volckmann adopt a similar view.

That the dynamic seat of the soul is somewhere in the brain was shown by Dr. W. H. Thompson, physician to the Roosevelt hospital in New York, in his "Brain and Personality." It is well known that the brain has two lobes or hemispheres, on the right and left sides respectively. A strange fact is that in a right-handed person the faculty of speech is located in the left hemisphere. If this hemisphere be impaired late in life, the speech faculty can only with difficulty be developed on the right side. This shows that the mind quality is not in the brain as such and that the gift of speech is not due to any original or special fitness of the left hemisphere, but simply because it was the hemisphere related to the hand most used in childhood. Thompson concludes that the theory that the brain makes the mind is false and that it is rather the mind that makes the brain.

Thompson even goes so far as to maintain that we can make our own brains, so far as special mental functions are concerned, if only we have wills strong enough to take the trouble. By practice, practice, practice, as in Helen Keller's case, the will stimulus will not only organize brain centers, but will project new connecting, or, as they are technically called, association fibers, which will make nerve centers work together as they could not without being thus associated.

11. Soul Survival according to Thompson

Thompson has no hesitancy in affirming that man's personality is capable of such infinite development that to suppose the soul will cease to exist at death is contrary to all analogy. "The mental and moral equipment of man seem sufficient for any future life, however limitless its conditions. . . . We can now conceive of a body no longer made of the most temporary forms of that matter which is itself passing away, but fashioned to be a dynamic body, a body of power which need not shrink, as here, from the heavy burden of the will." The Hereafter follows too closely upon the Here to suppose that there is no connection between them.

In a later work, "Life, Death and Immortality," this famous physician goes more thoroughly into the subject, saying: "In every other animal its physical development explains everything, but nothing physical explains man. . . . Besides being an animal, man is a person, which no other earthly creature is. Personality is the greatest fact in the universe [that is, the physical universe], of which a holy God is the source, and man has all the attributes of personality."

Such is the testimony of a scientist who examines such matters by the hard and fast methods of critical investigation. Our conclusion is that Scripture, contemporaneous psychology and physiology prove without a doubt that man is a being made in God's image and endowed with an enduring personality.

12. Scientists Evade the Question of the Soul

In his affidavit at the Scopes trial Professor Mather says: "It is the business of the theologian, not the scientist, to state just when and how man gained a soul. . . . Men of science have as their aim the discovery of facts." Professor Vernon Kellogg takes a similar position, saying: "Evolution concerns man as a link in the chain of animate matter. It does not con-

cern him as a repository of spirit, soul and religious yearning." (*The World's Work*, May, 1924.) Not only men of science, but men generally, aim at "the discovery of facts." The question here is, Is the soul a fact or a fiction?

Is not man to be regarded as ultimately a unit? Can we divide him up into body and soul, neither having any relation to the other? What is "animate matter"? Is it not matter with an *anima*, a life principle, expressed by the Hebrew *nephesh* in the Old Testament, according to which the animal and man have alike the life principle, but man alone the *animus*, or mind, intelligence, reason, personality?

Mather writes: "It is man's soul, his spirit, which is patterned after God, the Spirit." This is correct. It is a fact, but with what consistency can Mather state this psychological fact and in the next paragraph argue that it is not the business of the scientist to inquire into the origin of the soul? He certainly does not hold that soul and body are distinct entities.

Kellogg writes: "How these [spirit, soul, etc.] came to be in him, the evolutionist does not know." This is the weakest and most unfortunate statement in this unfortunate article. Do not evolutionists as a class regard man, body, soul, spirit, as descended from an animal, an amœba? How man acquired a soul or spirit is in truth more vital for the scientist than for the theologian. The latter, with his doctrine of man created in the image of God, has a consistent and intelligible view and solves the problem; the former either cuts up man into body and soul, or makes the soul a product of matter (a kind of *epiphenomenon* of nerve force), or dismisses the subject with a curt "I do not know." He ought to know, or confess failure regarding the complete nature of man as man.

Evolution, says Kellogg, does "not concern man" in his "religious yearning and faith." On the contrary evolution

concerns man most vitally and profoundly on the side of religion. If man came from the animal, when did he reach the state of responsibility in the sight of man and of God? Was it the Java, the Piltdown, the Heidelberg, the Neanderthal, the Cro-Magnon or the Stone Age man, or some other, who first became a responsible agent? Apes are not responsible agents; nor any other animal. If man is merely a high-grade animal, why hold him accountable for his acts?

The fact that science makes a terrible witches' broth of the whole matter is proof of some radical defect of the evolutionistic scheme.

CHAPTER V.

Is the Doctrine of Evolution a Satisfactory and Comprehensive World-View? (*Continued*)

IT is a principle of science and logic that, of various theories offered in explanation of anything, that one is to be preferred which covers all the facts or the greatest number of facts. The preceding pages contain proof that if the term *evolution* be understood in the old and legitimate sense of a development of the genus, type or species, or, in short, of its kind, there can be no objection, for such evolution is a well-attested fact. It is not a fact, however, that "cosmic evolution and organic evolution, . . . the growth of plant and man, . . . are continuous parts of one process." (Patten.) Neither Patten nor any one else has ever shown that the three spheres of matter-force, life and mind are an evolution. On the contrary, the evidence from all sides is overwhelming that they are creations by the Infinite. It follows that not evolution, but creation as revealed in broad outline in the first two chapters of Genesis, covers by all odds the greatest number of facts, and so is the most satisfactory and comprehensive of all world-views.

1. The Two World-Views

Whatever views one may entertain of matter, life, mind, development and evolution, all are reducible to two fundamental world-views. Professor N. K. Smith, in his inaugural address in the chair of philosophy in Edinburgh University, writes: "Ultimately there are only two philosophies, the idealistic and the naturalistic; it is between these two forms that we are called upon to decide." If by "idealistic" we understand "personal idealism," we have on the one side God, the Creator, and man, a rational and responsible self, free will

and immortality; on the other no God (for the God of pantheism, theosophy, New Thought and similar systems is identified with the cosmic process and has no distinct personality), no human personality, free will or a hereafter, but at most only force, energy and determinism. Professor G. T. Ladd, of Yale, in an article on "Modern Theism" shows that all theories of the universe are reducible to two, the theistic and the mechanistic, the former personal, the latter impersonal. "Science cannot offer the slightest satisfactory rational explanation of a material universe, or of a history of humanity, that has no personal ground, whose Being reflective thought explores, and in whom religious faith believes, worships and obeys as God. In fact no mechanical theory wholly explains the reality of the most insignificant thing." (*Methodist Quar. Review*, July, 1919.)

(*a*) *The Mechanistic or Naturalistic World-View*

It was pointed out above in the section on Matter-Force that one group of evolutionists, headed by Haeckel and championed by Darrow, unflinchingly adopt a mechanistic, naturalistic world-view and conceive of everything in the world as the result of an infinite and eternal force or energy. Unless the reader grasps the scope of this view he will be unable to understand the real import of the doctrine of evolution as held by many of its exponents. Such a view does not necessarily deny a personal First Cause, provided the physical universe be regarded as having a beginning in time. Haeckel, however, denied outright the existence of God.

It is impossible to determine what proportion of scientists believe in the existence of a personal God. Professor James H. Leuba, in collecting material for his *Belief in God and Immortality*, inferred from answers to a questionnaire that only about twenty-five per cent believe in a God who answers prayer,

or specifically: psychologists, 14 per cent; biologists, 16; sociologists, 18; historians, 32; physical-scientists, 35. A careful examination of the system of thought in which Patten, Crampton, C. W. Eliot and such men move indicates that, being committed to the idea of one universal force or energy and the invariability of natural law, they regard the universe as existing from eternity. Crampton, as seen above, says plumply that natural laws, without a divine lawgiver and without supernatural creation, produced the world and all therein.

This is the old naturalism, which, according to the Century Dictionary, is the "scientific view of the world, and especially of man and human history and society, which takes account only of natural (as distinguished from supernatural) elements and forces."

T. B. Wiggin, in characterizing the new evolutionism, says: "Man is found to be a brother not only to the brute, but to the clod and crystal. . . . Life itself is believed to be a mere phenomenon of matter. . . . Indeed matter itself has disappeared and the mechanist finds nothing but force, a world of electrical points which by their infinite permutations and combinations produce that transitory illusion which we call life." (*The New Decalogue of Science.*) In short, says Wiggin, God, heaven, immortality are "practically eliminated from modern scientific thinking and critical philosophy."

John Burroughs says: "There is no other adequate solution of the total problem of life and nature than what is called pantheism, which identifies matter and mind, finite and infinite. . . . Shall we endow the Eternal with personality? Into what absurdities this leads us." (*Accepting the Universe.*)

(*b*) *The Theistic World-View*

Over against the mechanistic, impersonalistic world-view, there looms up the doctrine of personalism, or the theory that

a being, known in religion as God and in philosophy as the Absolute, in infinite wisdom and love created the realms of matter-force, life and man, to the end that man in loving and worshiping God might attain his highest happiness here and hereafter. The group of scientists (Conklin, Coulter, Millikan, Mather) who grant that there is a God are in an awkward dilemma. Either they must allow that God created the three realms in a "special" act, and continues to preserve and guide them to a definite end, or they must hold that He did nothing but create matter-force, and now leaves the world to its fate as the old deists held. The former alternative overturns the doctrine of evolution, the latter that of providence. In fact we search the so-called theistic evolutionists in vain for a clear statement of God's share in creating the universe. They constantly affirm that evolution "creates," but rarely, if ever, that God creates.

Least of all do they ever refer to any possible aim of God in the creation. As a matter of fact, there is no world-aim in evolution. All is a ceaseless movement with no definite purpose. Evolutionists, like pragmatists, can say: "We do not know where we are going, but we are on the way."

(*c*) *Preservation and Providence in Relation to Evolution*

The Christian doctrine of providence is substantially that God maintains in existence the things and persons that He has created. It is not creation, but implies creation. According to deism and the doctrine of evolution God withdrew from the universe as soon as He had created it—an impossible view.

Closely related to preservation is the doctrine of providence, according to which God exercises a continuous agency to the end that events in the physical and moral world may contribute to the purpose of the creation. Those who hold that God never intervenes in human history by miracle or super-

natural acts, but has bound himself through all eternity to natural laws of his own ordaining, virtually make him the slave of his own laws, instead of conceiving him as higher than his laws. As men, endowed with personality and freedom of action, form stupendous plans and execute them, so, in a vastly higher degree, God must be supposed to carry out his plans through control of his laws and the free agency of men. Unfortunately, evolution, as understood today. makes no provision for such divine oversight and control and never gets beyond the dead level of natural law.

2. *Theistic Evolution*

How much of what takes place in nature is due to an original creation? How much to evolution? Which is the greater half? Science rejects the Genesis cosmogony, but practically offers nothing in its stead. It rarely uses the term creation by a Creator, but always evolution from evolution in an eternal regress. The climax of absurdity is reached in the assertion that "evolution" is creation. Professor Mather at the Scopes trial wrote: "The theories of theistic evolution held by millions of scientifically trained Christian men and women lead inevitably to a better knowledge of God and a firmer faith in His effective presence in the world." Neither Mather nor any one else explains what theistic evolution is.

Mather's statement that "God is a power, a force; He necessarily uses processes and methods in displaying His power and exerting force," is correct enough as far as it goes, barring the infelicitous expression "displaying His power," as if forsooth God's purpose were primarily to "display His power," rather than to conduct earthly and human history to its destined goal. May not creation on a large scale be one of "the processes and methods" of God?

Theistic evolutionists the world over constantly speak of "creation by evolution" and "evolution as God's method of creation." Did matter come from evolution? Or life? Or personality? Before there can be evolution there must be creation, as every theist must grant. Before life can evolve there must be life. Evolutionists speak lightly of divine creation. Vernon Kellogg says: "Granted life, granted matter, . . . granted an ultimate cause or causes, and evolution follows." (*The World's Work*, May, 1924.) Whence such matter, energy and life? Kellogg does not attempt to explain and ought to have recalled Kant's profound observation that one cannot know how a caterpillar originated without knowing how the universe originated. Without an explanation of origins evolution fails as a satisfactory world-view over against Biblical creationism.

The phrase "theistic evolution" has a plausible look, for it implies that God has a part in the evolutionary process. In reality, however, it is deceptive, for the greater half, indeed nine-tenths, is evolution, the one-tenth God. The thoroughgoing evolutionist finds it convenient not to refer to God except as a figurehead with little or nothing to do. Evolution cannot be its own cause, much less of the universe. Conklin, Coulter, Mather and so-called theistic evolutionists gingerly allow God to be a cause, but immediately proceed to personify evolution (which is not an entity, but merely a process) and ascribe to it the creation of atoms, stars, suns, matter, force, life, and even man. Conklin writes: "Everything that has been thoroughly investigated has been found to be natural [obviously to the exclusion of a supernatural]." (*Direction, etc.*, p. 195.) J. M. Coulter says: "It is all the result of the activities of that all-pervading energy which we have learned to call God." (*Where Evolution and Religion Meet*, p. 101.)

Though theistic evolutionists of a generation ago allowed

that God may have created plant and animal life, and possibly man, none in recent times seem to be disposed to grant to God any such prerogative, man being, not a creation, but an "evolution" of an amœba.

It is clear that the widely advertised slogan "theistic evolution" is a vague, colorless expression explaining nothing and liable to run out into a pantheistic identification of God and the universe, or a deistic estrangement of God from the universe. The only view that meets the conditions of the case is that of a divine creation substantially as recorded in the first two chapters of Genesis.

(*a*) *Miracle of Origin of Motion*

According to the scientific hypothesis of the origin of the universe (whether that of Laplace or of Chamberlin is immaterial), matter which previously was a tenuous vapor was set in motion and produced suns, stars and worlds. How did it start? Not of itself, for that violates the law of inertia. It must have gotten motion from some outside source, say God. The objection that the universe, as a machine, was always in motion, is invalid, for this would be a case of perpetual motion, an impossibility. The origin of motion, therefore, was not a creation by evolution, or a theistic evolution, or evolution in any sense. Here, again, the assumed law of continuity fails.

(*b*) *Divine Intervention and Theistic Evolution*

The more conservative theistic evolutionists grant that God directs the course of nature and of human history. But this implies intervention and the entrance of a higher law than that of nature. He who allows that God created the universe, force, animal and human life, is no longer a theistic evolutionist, but a theistic creationist. Still more so, if he allows that the advent and resurrection of Christ were unique and extraordinary events.

At the Scopes trial the representatives of evolution aimed to present every aspect of the case in the strongest possible light. While Clarence Darrow, an avowed agnostic and practically an atheist, denied divine creation, Professor Mather allowed that God created man in His image, though science "may never know how God breathed a living soul into a man's body." This is well said, for creation is an inscrutable mystery hidden from a finite mind. It would be interesting to know how Mather reconciles man's creation in the divine image with his evolutionistic view that man is a descendant of an animal. The two views are irreconcilable.

3. The Problem of Freedom of the Will

According to the old psychology generally accepted before the rise of the dogma of evolution, man is a self-determining agent with the liberty of choice. It was of course allowed that the country of his birth, the color of his hair, his stature, sex and mental endowment were determined by circumstances over which he had no control. But these factors do not prevent his freedom of action in the affairs of life. He is, accordingly, both in law and ethics, regarded as responsible for his acts.

But the assumed all-inclusive law of evolution has changed all this. Science tells us that everything in the universe, down to the minutest detail, takes place according to inflexible natural law. Not even God changes such law. If such law were limited to the stellar universe, it would not concern us directly. But it has a wider sweep. The same rigid law, it is said, applies to man. Man is merely a part of nature and subject to its laws. He is, in fact, affirms a professor of Columbia University (Edman), an "accident," thrown on the cosmic sea as driftwood. How, then, can he exercise freedom of choice? He cannot, says the up-to-the-minute evolutionist. He imag-

ines that he is free, but he labors under a delusion without knowing it.

Since, however, the common sense of mankind rebels against any such outrageous doctrine, science attempts to explain.

(*a*) *No Free Will According to Science*

That under scientific premises there can be no free will is admitted by thoughtful scientists. Delage and Goldsmith, French scientists, say: "What becomes, in fact, if one accepts the new point of view (evolution), of the idea of free will, the indispensable basis of every ethical system? Where could we find any guidance for human behavior if we gave up the spiritualistic faith? . . . The same applies to social science, to history, to political economy and to practical questions related to them." (*Les Theories de l'Evolution*, pp. 6, 7.)

Scientists, including Osborn, Conklin, Millikan, Coulter, Patten and Mather, do not attempt to explain how, when and where man acquired free will and became a responsible agent. Whether the Java, Heidelberg, Neanderthal, Cro-Magnon or some later man broke away from nature's inviolable (?) law and knocked the underpinning out of the evolutionistic scheme, we are not told.

Some of the younger and bolder evolutionists, seeing their dilemma and unwilling to accept the common-sense view, do not shrink from following the arbitrary premise to its logical conclusion and accept a rank determinism. Thus Professor A. B. Wolfe, of the Ohio State University, in a book recently published, announces his viewpoint as "the assumption of a consistent, mechanistic, deterministic view of nature, man and his social relations included. . . . I have been driven to this postulate because it seems to be the only one in accord with relational experience, and the only one which affords a sure basis of understanding of phenomena, both natural and social.

[Is Wolfe a Marxian socialist?] Consistent with this deterministic position goes adherence to the behavioristic psychology which gives promise of consistent scientific quality."

Wolfe sees that there is only one alternative: either he must allow that man is a free, self-determining agent and thus overturn the evolutionistic postulate of invariability, or swallow the whole evolutionistic mishmash. We give him credit for thus unflinchingly stating his real views, instead of concealing them, as do many high-school and college professors.

Wolfe is candid also in accepting the behavioristic psychology, which, as says J. B. Watson of Johns Hopkins University, in his book on the subject, has no reference to consciousness, perception image, or will. "I have written," says Watson, "with the human animal [probably an ass] in front of me." The idea is that the behavior of a Newton in his profound mathematical investigations is of the same order as that of a dog circling around before lying down. No wonder that the popular name for such stuff is *dog-behavior* or *muscle-twitch* psychology.

(*b*) *The True View of the Will*

It is clear that the will, or, more correctly, man putting forth his will, is not under the law of physical and mechanical causation. The will is the soul's power to choose between motives and to initiate means to attain a desired end. Professor John Dewey writes: "The man determines himself by setting up either good or evil as a motive to himself." James Seth, in the classical work "Freedom of Ethical Postulates," says: "We contend for a power of free initiation in the self, and this it is necessary to maintain in the interests of morality."

In short, without will to select and combine the material at command we could have no science, art, morality or religion.

4. Summary of Results

We sum up briefly the results of the discussion. From the nature of the case, the question of evolution covers a tremendously wide field and affects every phase of life and thought. It cannot, as some people vainly imagine, be settled offhand. As a matter of fact, however, the field is narrowed to some half dozen sciences, as geology, biology, chemistry, physics, astronomy and psychology. The strongest proof is supposed to come from geology, and yet the "gaps" and "breaks" are so numerous that eminent physicists doubt the correctness of the current classification. More writes: "From these few and wholly inadequate facts, the history of the world, from the time when it was a molten and fiery mass to the present, is given to us by geologists and biologists. . . . If the pedigree of paleontological organisms is thus a matter of guess-work, what can be said of the certainty of the theories as to the causes of the changes from one species to another?" (*The Dogma of Evolution*, pp. 15, 19.)

(*a*) *The Millions of Years of Geology*

We read daily of the millions of years of the strata of the earth's surface and of the millions of years ago of such and such animals and even man. Americans are accustomed to "big figures," and so scientists whet the public appetite by speaking of millions instead of thousands. Geologists have hoodwinked the public. The fact is that we can estimate the thickness and age of the earth's crust only by our ability to arrange the strata of rocks in their actual order and measuring the thickness. Such estimates, says a noted scientist, "amount to mere guessing." The eminent geologist Sir Archibald Geikie writes. "The few centuries wherein man has been observing nature obviously form much too brief an interval by

which to measure the intensity of geological action in all past time." L. T. More, after a long discussion, sums up thus: "We can then be certain that geology cannot, and never will be able to, translate the thickness of any stratum into an equivalent length of time, and that it cannot, and never will be able to, establish real contemporaneousness of time in different parts of the world." (*Op. cit.*, p. 151.) The situation warrants this strong language.

(*b*) *Gaps in the Geological Eras*

In our section on geology overwhelming proof was offered that the law of continuity is repeatedly broken. There are numerous unexplained gaps and breaks. Species disappear and new ones take their place. Thus, of the 10,000 species of animals at the beginning of the Carboniferous period, there were only 300 at the close. There is, accordingly, a great gap between the Carboniferous period and the Triassic. Likewise between the Jurassic and the Cretaceous, higher forms of life being in an unaccountable way succeeded by minute chalk formations, so that one instinctively asks, Where is the evolution?

Another, if not greater, break occurs at the close of the Cretaceous period, during which there was an abundance of marsupial animals, but few placentals, whereas at the beginning of the Eocene period, in place of the chalk formations, there arose, say Chamberlin and Salisbury, the Age of Mammals, in fact placental mammals. "Geologists still ask, whence came the recent placental mammals, and their answer is: *their origin is one of the great outstanding problems in paleontology*. . . . The more one studies paleontology, the more certain one becomes that *evolution is based on faith alone;* exactly the same sort of faith which it is necessary to have when one encounters the great mysteries of religion." (More, *op. cit.*, p. 160.)

(*c*) *In What Sense Evolution Is True*

The keynote of this book, being that the three realms of matter-force, life and mind are distinct, is being verified every day. Professor J. A. Thomson, in his "Introduction to Science," accepts the threefold division: (1) The sphere of matter, the inorganic world, where mechanism reigns; (2) the vital order, of life, where mechanism fails; (3) the psychical order, the world of mind, where neither mechanism nor vitalism suffices.

More, after saying that he accepts the general doctrine of "the evolution of organisms," proceeds to add: "But this is not equivalent to accepting the metaphysical hypotheses which attempt to give the causes and methods of evolution, nor does it mean that the *biological theory of evolution can be applied with success to the problems of man's mental and spiritual nature.*" (Page 163.)

(*d*) *Scientists not Trained in Philosophy and Humanism*

Evolution as understood by scientists has passed beyond the stage of a collection of facts and has presumed to dictate terms to all the sciences, especially psychology, ethics, education and religion. Unfortunately, scientists, though ever so proficient in their own line, are, as a class, not professionally trained in psychology, ethics, and least of all theology. When they begin to philosophize or construct a world-system they make a sorry mess of it. As says another: "It is surprising how few biologists see that the philosophical conclusion of Darwin's hypothesis of natural selection is a mechanistic monism. The reason is: too many men of science are unwarrantably self-satisfied with the superiority and certainty of their scientific method and are but superficially trained in either philosophy or humanistic thought." (More, p. 255.)

The public ought to be warned against assuming that the current doctrine of evolution is a solid basis for systems of edu-

cation, psychology, morals and religion. It is at bottom, despite the efforts of Conklin, Coulter, Millikan and Mather to give it a theistic twist, an impersonal monism, the view that not a Supreme Being or Person, but some eternal force or energy is the cause of all things terrestrial and celestial. As scientists are at sea regarding the basic principle in their world-view (some being quasi-theists, others rank atheists), not a few take refuge in the term *agnosticism*, coined by Huxley and championed by Spencer. In the opinion of More this middle ground between those who hold that life is but another form of force or energy and those who hold that there is an unbridgeable gap between the organic and the inorganic "includes, I think, the majority of biologists and of those who are trying to base philosophy and religion on science." (Page 256.) It was shown above that Agnosticism is an untenable position.

(*e*) *Current Evolutionism Materialistic*

The trend of present biological methods is unquestionably materialistic. Professor W. H. Sheldon, of Yale, writing on "Soul and Matter," says: "Materialism, far from being dead, is stronger than ever. Science is taken as the source and the type of all knowledge; biology becomes a branch of physics, and psychology a branch of biology; so it is at least in North America, where we have practically no vitalists or animists. And this after all is straight materialism." (*Phil. Rev.*, March, 1922.)

Biology, says Sheldon, is a mechanistic and therefore materialistic affair. Not even consciousness is left, and so the way is prepared for the new psychology without the soul.

(*f*) *The Whole Battle of Evolution to be Fought Over Again*

No less an authority than Dr. C. A. Etheridge, fossilologist of the British Museum, says: "Nine-tenths of the talk of evolutionists is sheer nonsense not founded on observation and

wholly unsupported by facts. *This museum is full of proofs of the utter falsity of their views.*" Benjamin Kidd writes: "The knowledge has come to me that Darwinism, the peculiar science of the West, is a compound of *astonishing presumption and incomparable ignorance.*"

That doubt as to evolution has arisen on all sides was indicated in the presidential address of Dr. D. H. Scott before the British Association in 1921. After referring to the fact that "the Darwinian period is past," he continues: "We can no longer enjoy the comfortable assurance, which once satisfied so many of us, that the main problem has been solved—all is again in the melting-pot. But now in fact a new generation has grown up that knows not Darwin." It is Dr. Scott who says this. But now comes "the unkindest cut" of all, when he asks: "Is evolution, then, not a scientifically ascertained fact? No, *it is not.* We must hold it as *an act of faith*," says Scott. High-school teachers and embryonic college professors might well look into the subject a little more fully before parading their ignorance of facts.

Professor W. E. Ritter, University of California, writing in *Science*, April 14, 1922, says that one who thinks carefully "can hardly fail to see signs that the whole battleground of evolution will have to be fought over again, this time not so much between scientists and theologians as between scientists themselves." Other proof could be given if space permitted.

(*g*) *No Aim or Goal in Evolution*

We search in vain in evolutionary literature for a statement of the aim or purpose of suns, stars, minerals, plants, animals and man. Why the hundreds of things in the universe? Do evolutionists present any comprehensive world-view, or any view at all? They nowhere speak of an aim, purpose

or final outcome. H. Bavinck, the great Dutch scholar, writes: "In the current evolutionism nothing is dominant save the compulsion of fate or the capriciousness of accident. Even in the case of man evolution offers nothing; he exists, but why and to what end cannot be told; he remains here for a time and then is reabsorbed in the infinite abyss, or, as say the French, 'the farce is ended' (*la farce est jouée*). Since there is neither soul nor spirit, immortality is folly and faith in it mere egoism."

(*h*) *Evolution and Man*

After all is said, the supreme question is the origin and character of man. Is he the last and highest in an unbroken series of life-forms, essentially the same from the amœba to an Aristotle or Newton, or is he of a type differing in kind and not merely in degree from the most cunning ape? Is he by nature a being created in God's image and placed here to hold communion and fellowship with his Maker, or is he an "accident," as says science, and at death reabsorbed as a mere force into the infinite maelstrom whence he is alleged to have come?

It is a momentous question. How shall we answer it? We may sum up the matter in the language of Dr. G. H. Howison, professor of philosophy in the University of California, and ranking as a metaphysician with Royce: "We have reached the proof that what is most distinctively meant by Man *is not* and *cannot be* the result of evolution. Man, the spirit, man, the real mind, is *not the offspring* of Nature, but rather Nature is in a great measure the offspring of this true Human Nature." (*The Limits of Evolution*, p. 48.)

Similarly a recent statement by Professor Reinke, of Kiel, Germany: "The only statement consistent with her dignity

that science can make is to say that she knows nothing about the origin of man."

(*i*) *The Argument from Comparative Anatomy*

It was shown above that, in spite of certain marked similarities between man and higher animals, the differences are more marked. Alfred R. Wallace was certain that the differences are due to a special creation of man. Virchow declared that, since apes and men do not mate, they are unquestionably of different species. As seen above, Huxley allowed that the argument from comparative anatomy fails.

(*j*) *The Argument from Skulls and Bones*

A few years ago it was affirmed that man's descent from the ape, or at least ape-man, could be proved from fossils. Our elaborate review of the evidence discloses that this last line of defense has been shattered beyond hope of repair. It turns out that the long-sought-for ape-man, or missing link, never existed, as even the adroitly arranged "restorations" in the American Museum, New York, testify.

To save the hypothesis from utter collapse, a hypothetical ancestor of man is supposed to be represented by "a jaw discovered in Egypt," according to the ever resourceful Professor H. F. Osborn. (*Natural History*, XX, p. 231.) Beginning with the "jaw," of a million years ago, the history of man is traced through one hypothetical link after another up to the present. Thousands of innocent school-children and unsophisticated adults visiting museums in New York, Chicago and other cities are shamefully hoodwinked into supposing that such fabrications extraordinary are ascertained facts of science.

The argument from skulls having failed, Osborn, eating humble crow, is compelled to say: "Man is not descended from any known ape, either living or fossil." (*Op. cit.*, p. 231.)

But now we are told that both man and monkey are descended from a line further back—of which, as to man's real nature, there is not a shadow of proof.

(*k*) *Self-Consciousness and Personality the Dividing Line between Animal and Man*

The animal intelligence of which we hear so much is greatly misunderstood. The psychologist Professor E. L. Thorndike writes: "Most books [on animal psychology] do not give us a *psychology* but rather a *euology* of animals. They have all been about animal intelligence, but never about animal stupidity. . . . Dogs get lost hundreds of times and no one ever notices it or sends an account to a scientific magazine. But let one find his way from Brooklyn to Yonkers and the fact immediately becomes a circulating anecdote." (*Animal Intelligence*, p. 25.) Similarly Wundt in his "Human and Animal Psychology."

Man is a self-conscious person; the animal is not. The animal has sensation, perception and recollection (not true memory) and an elementary form of reasoning, but not reason in the true sense.

"Clever Hans," a horse trained by a German psychologist, could perform wonderful tricks, but he could not originate a new or original line of action. If, by any mischance in the performance, anything went wrong, the creature was hopelessly "rattled" and all had to be gone over from the first. During the Chicago World's Fair, the writer attended an exhibition of trained dogs in one of the large theaters. The chief "stunts" required the animals to jump alternately under and over a series of bridges. In the second round the leading dog made a mistake and jumped over instead of under the first bridge. The dogs following did not correct the mishap, but were in utter confusion, some jumping over, some under

the bridges, others running about in bewilderment, yelping meanwhile in a most ridiculous chorus. The scene was so indescribably amusing that the uproar of applause threatened never to cease. The whole performance showed that the animals, however well trained, had no power of initiative or of retrieving an unfortunate situation.

The reason is obvious: no animal can say: "I am I," "Thou art thou," or can by any possible amount of training acquire such power.

(*l*) *Man in a Class by Himself*

If space allowed other cogent proof could be cited that man is in a class by himself. Professor James sums up the matter in saying that the principle of substantiality of the soul differentiates man from the animal and is the only guaranty of responsibility and immortality.

As seen above, the American Association for the Advancement of Science placed itself on record as holding that "every scientist in the world" accepts the doctrine of the evolution of man from the animal. Scientific bodies, however, have frequently been mistaken in their deliverances, as in the case of the British Royal Society when it declared that the power of involuntary movement of a headless turtle was dire heresy, and in that of the French Academy when it attempted to overthrow microscopic discoveries of scientists. See Whewell's "History of the Inductive Sciences." Professor O'Toole is, therefore, quite correct when he writes anent the "dictatorial proclamation" mentioned above that "in view of our uncertainty and ignorance regarding the origin of the human body, it is extremely unethical to strive to impose the theory of man's bestial origin by the sheer weight of scientific authority and prestige." (*Op. cit.*, p. 345.) For a fuller discussion of the subject, see the

author's "*Christianity and False Evolutionism*," Central Publishing House, Cleveland, O., or Laird & Lee, Chicago.

Since, according to science, "every living thing produces offspring *after its kind*" (Conklin), thus confirming Scripture, man comes under this category. He is a kind or species distinct on his mental and spiritual side and in his twofold nature from an animal. A true and real species cannot be accounted for by evolution, but begins with a divine creative act. Over against the scientific contention, at once consistent and contradictory, that man, in body, soul and spirit, is descended from an amœba, the true view is stated in the Westminster Confession: "God created man male and female, with reasonable and immortal souls." Referring to evolution, Thomas Carlyle writes: "If this brute philosophy is true, then man should go on all fours, and not lay claim to the dignity of being moral." We share this view.

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