Man in Evolution

by G. de Purucker

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Publisher's Note

This 3rd Revised Edition is to some extent an abridgment, retaining chapters focused on human evolution while omitting material that is dated, repetitive, or treated in the author's other writings. Here he develops the themes of nature's cyclic evolutionary pattern, of the inner cosmic origin of all her kingdoms, and of "Man" as having always existed — that humanities from past universes have left their impress on the mind-fabric of nature, providing the architectural forces shaping not only modern man, but all developing life.

It is perhaps noteworthy that *Man in Evolution* originated as radio lectures just two years after the 1925 Scopes "Monkey Trial" in Dayton, Tennessee, which pitted Darwinism against Biblical creationism, excluding more philosophically-reasoned approaches to evolution and spirituality. As mentioned in the 1976 Foreword below, Appendix 2 summarizes more recent work in physics, chemistry, and the life sciences, confirming much that is postulated by the ancient wisdom-tradition. In the several decades since then, research has of course considerably deepened and widened the scope of the great evolution mystery that is Man. For further study, some additional titles are appended to the Bibliography.

November 2016

Foreword to the 2nd Edition

Since its publication in 1941, *Man in Evolution* has had a particular appeal for students seeking to relate the theosophic approach to evolution — seen as a cosmic process reflecting itself in the human sphere — to the theories propounded in the main by Charles Darwin and his followers. Today, archaeologists and paleontologists are daring to take a fresh look at fossil findings, so that firmly-established views as to our human origins are undergoing radical change. Those in the vanguard of evolutionary thought do not look upon man as the descendant of monkey and ape but, on the contrary, as their antecedent, if not their half-parent.

This is calling for a major reversal of psychological outlook for many, so conditioned have we been from childhood to think of ourselves as having evolved solely through physical mutations which, by some unexplained random leap of consciousness, metamorphosed us from a witless, arboreal creature into the thinking, artistic and creative entity we know as Man.

Not so for the writer of the present volume. Gottfried de Purucker, author and educator, had since youth been a dedicated student of both modern theosophic thought and the traditional wisdom of ancient peoples concerning the origin and destiny of worlds and of the human species — teachings which confirm man as a divine being of immense antiquity, rather than as a recent emergence from lower stocks.

"Man is his own history," says the author, meaning by this that he carries within him the entirety of an aeons-long past. A cosmic entity, he enters earth as a returning pilgrim in process of *becoming*, of bringing into actuality that which is potential, hidden within his inmost essence, and which, given time and the appropriate environment, will flower into fullness. For evolution is no chance happening, but an orderly manifestation of the spiritual-intelligent drive inherent in the universe and therefore intrinsic to all life-particles. Not an atom, cell, human being or sun, could exist unless at the core of each were divinity.

With this as background and foreground of his thought, Dr. de Purucker examines critically the dominant evolutionary hypothesis, to see where theory merges into fantasy, where concepts still unproven have hardened into "facts" without adequate basis in nature. Rigorous analysis, cogent argumentation, supported by clear-cut testimony of anatomical structure, bring conviction that the human line is of extremely ancient origin, the most primitive of all the mammalian stocks and hence must have preceded, not followed, the more specialized apes and monkeys.

With knowledge of biological fact, the author regards man's essence primarily as a divine spark seeking imbodiment in everfitter instruments through each of nature's kingdoms. The dignity of humanhood is thus enhanced, giving our lives here on earth majesty and purpose.

The material in the present volume originally stems from a series of lectures titled "Theosophy and Modern Science" given by Dr. de Purucker at the Theosophical Society's headquarters at Point Loma, California, from June through December 1927, and broadcast live over San Diego radio station KFSD. In 1929 these lectures were published, without editing, under the above title. The edition soon sold out, and the book remained out of print for several years.

In 1941 the author issued a somewhat condensed version as *Man in Evolution*, the work of rearrangement having been in large part due to the labors of Helen Savage Todd, whose editorial assistance Dr. de Purucker acknowledged with "grateful and genuine appreciation." For that edition, however, he saw no reason to bring forth "newer and later scientific arguments in favor of the theosophical doctrines," as he regarded those he had drawn upon for his lectures a decade earlier mainly as background for the "theosophical picture" he wanted to portray. To him, the principles upon which theosophy is founded are rooted in the structure of nature herself and therefore are everenduring. In an Appendix he did incorporate certain forwardlooking statements from noted anthropologists and anatomists of the period (1930-1940), but in view of the greatly extended time span now afforded man by paleoanthropology, reaching back into the millions of years instead of a mere few hundreds of thousands, this material has been replaced in the present volume with two new entries:

Appendix 1: "The Antiquity of Man and the Geological Ages" by Charles J. Ryan, which provides a succinct explanation of the geological ages in relation to the "rounds" or cycles and the various "root-races" traversed by humanity. Also included is H. P. Blavatsky's table of approximate time periods placed alongside the contemporary time scale of eras and epochs as generally agreed upon by geologists.

Appendix 2: "Theosophy and the New Science" by Blair A. Moffett, which assembles current findings in physics and the life sciences, supplying valuable scientific data for comparison with and analysis of Dr. de Purucker's presentation of man's spiritual and racial origins.

Man in Evolution offers a unique approach: it treats of evolution from within and above, rather than from without and below. Instead of relying on missing links among fossil remains, it provides the one valid missing link: that of the spiritual or dynamic factor, the divinely impulsed intelligent entity at work in, through and behind all processes of birth, growth, maturation, decline and death. To the author, man's place in the cosmos is axiomatic, not something in need of proof.

The editor of the present revision of this important volume acknowledges with gratitude the assistance rendered by all who helped in its preparation, with a special word of appreciation due those who undertook the exhaustive research required to check all quotations from original sources.

Grace F. Knoche

November 1976 Pasadena, California

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Chapter 1

Cycles of Manifestation

Among the most momentous questions that every thinking person asks are: Where do we come from? Who are we? And where do we go at death? We come here on the stage of life as it is on this planet earth. We make a few gestures and movements, suffer somewhat, rejoice somewhat, are ill or well, and then we pass off that stage, which apparently knows us no longer, nothing but a memory of us remains, and perhaps not even that. Yet in a universe governed by law and order and progress, the sufferings that we have endured, the joys that we have had, the ideals fulfilled and unfulfilled, must have had their origin somewhere.

It is questions like these that occur to the thinking mind when it also reflects upon the nature, origin, and destiny of the worlds which bestrew the spaces of infinitude. Whence came they? What are they? What is their destiny? They are questions which must have answers. The mere fact that these things are, shows that there are answers to be had somewhere.

What is the method by which worlds and we men and other beings evolve? What is the method by which we come from the invisible into the visible, out of the darkness, as it is to us, into the light? The method by which worlds and men and all the rest seek expression is a cyclical method, that is to say, a procedure in and through cyclical progress. The great seers of the human race, who were and are the most fully-evolved men that the globe has yet produced, have put it on record and handed it down to us as the guide of our life — that method works somewhat as follows:

Beginning as an unself-conscious god-spark, each entity, each spirit-soul, each monad — for there is a monad at the heart of every individual entity — seeks self-expression and the building

up of appropriate vehicles through progress, until finally such method produces a vehicle which can express, more or less fully, the spiritual energies and forces of the monad within. When this point of progress has been reached, man then from an unselfconscious god-spark has become a self-conscious god, a selfconscious spirit, because he self-consciously manifests the sublime powers and faculties of the monad within, and he likewise lives in appropriate realms of existence where he builds for himself vehicles capable of expressing somewhat of the sublime inner faculties.

So it is with all the hosts of lives, because the entire universe is composite of these hosts, each one of which holds its character and its individuality and its own particular origin, this last in the spiritual world, yet each following its own particular pathway of progress. All come from the central Fire. Yet from the moment of their issuance therefrom, each such spark follows its own especial line. Why? Because it is a treasury of sleeping faculties particular to itself; in short, because it is ensouled by its own characteristic force, its own individuality, its own *svabhāva*, to use the Sanskrit term. This amounts to saying that each such god-spark follows a path of self-development eventuating in self-directed evolution, when a vehicle capable of expressing self-consciousness has finally been built to enshrine the god-spark working through it.

So again is it with the worlds, the universes. They issue forth into physical manifestation from the bosom of great Mother Nature as "nebulae" composed of most ethereal matter, matter so quasispiritual that we cannot see it as it is, either with our physical eyes or indeed with our physical instruments as aid to our vision. There are, at the present time, uncounted hosts of such spiritual universes, not yet visible to us, because our physical organs have not developed the subtlety of vision enabling us to see things so much more subtle and fine and spiritual than the gross physical matter that our eyes may take in and our brain-organ understand.

In time each such world as it passes on its downward and cyclical way into the matter worlds, seeking expression and therefore knowledge on and of these lower planes and in these lower spheres, undergoes concretion or materialization of its substance, partly by the gathering into itself inferior and smaller lives which help to build it up, even as man gathers into his body these inferior and smaller lives which help to make that body; and partly by the outflowing from its own core of subordinate lives. Each such world thus takes a form and a quality and a substance which is a mass of atoms expressing the inner forces of itself. It thus manifests a spiritual or energic side, and a material or vegetative or body side.

This course of progression of a monadic ray through the spheres, from higher to lower planes, is naught else but a succession of states, spiritual, ethereal, astral, physical, which follow each other continuously, each being a continuation on a lower plane in the descent from a preceding higher state. It is like a flow of water. Thus downwards, from its spiritual origin in any one life cycle, passing cyclically through various planes, it continues that flow of successions of states as it progresses forwards, until it reaches the lowest point of matter attainable in that life cycle; then it begins its ascent on its return to more ethereal realms, and finally to those realms which are its original source — spirituality.

At the end of its period of existence on any one plane — our own physical plane for example, which is its most material sphere, and therefore its turning point before it reascends — our universe, any universe, passes into the invisible realms when its life cycle is run in these realms of matter; even as man passes into the invisible realms when his life cycle is run on this earth. That particular life cycle is then ended. It has attained once again its primordial point of departure, but now it is greater, grander, because more evolved. And with it into invisibility have gone all the various organs or spheres or houses of life which composed the universe, each one with its manifold assortment of lives, which are incomputable in number, for there are hosts upon hosts, hierarchies upon hierarchies of them.

After a long, long period of universal repose, a definite time period called a *pralaya*, (1) our universe follows a new cycle down into newer substances and matters acting according to a preceding cause, which we may call an evolutionary seed, the fruitage of its former self. The vast aggregate of life forces which now reawaken into life again inform and comprise a nebula, the first manifestation of the stirrings of its own inner life force. Then, passing through various nebular stages of evolution, it will in time settle down anew into stellar and planetary bodies, each one of such bodies bringing forth anew what is within itself, its intrinsic and inherent and latent life forces, expressing itself on this plane, which is a somewhat higher one than the plane on or in which our universe in its preceding period of manvantara had manifested itself .

Yes, these worlds must have their period of repose, even as man must have his, when his cycle is run. When that period comes they rest in the invisible realms with all their freightage of lives, and after that rest return and repeat the cycle of evolutionary manifestation, but at each recurrence on higher planes than the preceding.

Nature repeats herself everywhere. She follows grooves of action that have already been made; she follows the line of least resistance in all cases and everywhere. And it is upon this repetitive action of our Great Mother — universal nature — that is founded the law of cycles, which is the enacting of things that have been before, although each such repetition, as said, is at each new manifestation on a higher plane and with a larger sweep or field of action. Back of all the seeming of nature, behind all the cyclical phenomenal appearances which our senses interpret to us as best they may, lies the universal life in its infinitude of modes of action and expression.

Let us now take another step in outlining this doctrine. What is it that causes this materialization or concretion or thickening of the original substance of a world or a universe? The answer is to be found in the teaching that spirit and essential substance are fundamentally one; which is virtually what the greatest scientific physicists believe when they declare that matter and force (or energy) are fundamentally one. This may seem like a dark saying and a hard one at first sight, but it is current scientific physics, thus reechoing the age-old philosophy.

At a certain stage of its movement forwards and downwards of progression or evolution, force passes the frontiers of any particular world-sphere and becomes very ethereal matter, because actually force is ethereal matter, so to say; or, to put it more accurately, matter is crystallized force.

Force is merely moving matter, or matter in movement, subtle matter, flowing matter. Force on the ethereal planes, or rather forces, are substances: on these ethereal planes they actually are solids, fluids and, if you like, "gaseous" matter; but in our more gross and material world, we sense them only as forces. Electricity is a case in point. It is material; we know that. Otherwise, indeed, how could it work in, through, and upon substance or matter, if it were entirely different from matter and had in itself nothing of a substantial nature? These forces working in the ethereal realms of matter are extremely subtle. Spirit and substance are fundamentally one. Matter passes into force or energy, or substance passes into spirit, when the material or substantial cycle of either is completed — that is to say, when the cycle of any particular evolving entity, be it globe or anything else, is ended, when its time of dissolution or vanishing again into the invisible world arrives. Matter is thus metamorphosed into force again.

The English physicist, Sir Oliver Lodge, stated in a lecture a number of years ago, that the universe is composed of something which he called "substantial," but which we cannot as yet understand; yet this "something" is an old story in the age-old philosophy. Theosophists call this something "substantial" one of the garments of *mūlaprakṛiti* ("root-matter"), that garment being the *ākāśa*, a Sanskrit term meaning "luminous" or "brilliant." The primordial or original physical matter of which Sir Oliver speaks is the lowest or most material form of ākāśa — and perhaps we might call it "ether," though there are many cosmic ethers of many grades of tenuity, ranging from the lowest material through all intermediate stages to the most highly spiritual.

This teaching of the ultimate identity of force and matter, or spirit and substance, is important because, among other things, it furnishes a perfect encyclopedia of suggestions from which to draw conclusions about these vexing problems. But in talking of these things we find that language is inadequate. We in the West have no terms by which to express these utterly new thoughts. We see matter moved by force or energy, and when we examine it more particularly we find that matter is really matters, and that force is really forces.

Now what are these forces? They are monads which have reached full development for and in our own particular hierarchy, that is, our cosmical system, both inner and outer; and that it is their lifeimpulses, their vitality, which furnish the energies with which the cosmos manifests. More simply put, the forces of the cosmos that we know are the life-impulses, the will-impulses, of these fully developed monads of our hierarchy. In ancient times they would have been called gods, modern scientific thinkers call them forces; but the terms really matter nothing.

The universe is composed of units, and the heart or core of each one of such units is what we call a monad. Each of these monads is a spiritual consciousness-life-center. As the universe is infinite, and comprises infinite stages or steps, so these stages or steps are formed of the incomputable hosts of monads in various degrees of self-expression; or to put it more accurately, are composed of the vehicles or bodies in which each such monad manifests itself as in a garment taken from its own life and substance. Such is force and matter. Yet the forces which play in and through the cosmos, although themselves substantial, seem unsubstantial and immaterial to the lower parts of the cosmos in which they all work. Seemingly illusory *for us*, we do not understand them as they are in themselves.

Consciousness, therefore, is matter too; matter is consciousness; for the cosmos is composed of nothing but an infinite number of spiritual entities, "spiritual atoms," if we like, self-motivated, selfdriven, self-impelled particles of consciousness.

When an automobile speeds along the road, it carries with it everything of which it is composed. And so is it with the various bodies or "vehicles" which enshrine and manifest and express the indwelling powers or energies or forces, whether such body or vehicle be a sun or a planet or a comet or a human body, or an animal body, or any other body. The directing intelligence sitting at the wheel is representative of the directing intelligence sitting at the heart or core of each and every manifesting body in the cosmos. This directing intelligence is the divine hierarch of the hierarchy or cosmos, great or small, which it guides and inspirits. The same law runs throughout the countless hierarchies which make up the whole universe as a composite entity. Man's body, for instance, is composed of innumerable lives, hierarchies of lives, of various grades; and ruling over these sits man himself in the temple of his soul, the directing intelligence of all. Man is a composite hierarchy.

These teachings of the inner nature of force and matter explain the process by which all hierarchies pass through their evolutionary life cycles. The spiritual body of the universe in its inception becomes more material as the substances and energies of which it is composed transform themselves into inferior matter. The coarsening of these forces proceeds apace as the universe runs its course down into what become material realms.

When the materialization has reached its ultimate, or to put it more clearly, when such materialization has reached what for any particular universe is its period of densest physical existence, then such coarsening or materialization stops, and this is the turning point in the evolutionary path of such a universe. There ensues a change in the direction, as it were, that the universe henceforth must follow. Matter begins then to etherealize itself, to reenergize itself, to rebecome energy, but very, very slowly of course. It takes aeons upon aeons for this cosmic work to eventuate in evolutionary perfection; but that work goes on all the time, without intermission and without ceasing at any instant. Therefore, as this etherealization goes on, as this re-etherealizing of the matter of which the universe consists proceeds, that universe rebecomes the forces of which it was at first composite, but with all the added qualities and characteristics of an evolved cosmic entity; and this takes place on a higher plane than that which witnessed the evolution of the universe that preceded it.

The passing of matter back into force gradually leads it upward and upward through progressive etherealization and final spiritualization, until ultimately it rebecomes spirit in those cosmic realms whence it originally set forth on its long evolutionary cyclical journey; but greater in quality and of superior texture in all senses is it when it returns to that primordial source. It is these two procedures that take place during the passage of a world from the invisible into the visible, and then from the visible back into the invisible.

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FOOTNOTE:

1. The periods of evolutional activity are called in theosophy *manvantaras*, a Sanskrit term which means periods of manifestation when the universe is not "asleep." In the periods of rest or of "sleep" it reposes. These latter are called *pralayas*, another Sanskrit word, meaning "dissolution." Yet if we were to analyze these periods of rest we should find that they are not a state of mere "nothingness" but are made up of condition after condition through a complete cycle, which closes only as the new cycle of activity begins. (return to text)

Chapter 2

Evolution and Transformism

Man is a mystery, a mystery to the investigating mind of the researcher into nature; but more so indeed is man a mystery to himself. Yet there is a solution of this mystery — a solution which is not new, which is older than the enduring hills. Man, child of the universe, nursling of destiny, stands between two immense universes, between the vast sphere of cosmos and the atom of physical matter — one of cosmical, the other of infinitesimal magnitude. It is on account of his having attained this present stage in his long evolutionary journey that he so conceives of himself as holding this intermediate point, and from these two universes he draws the life-springs of understanding which dignify him as man. Yet the majestic philosophy-science-religion of the ages teaches us that there are beings so much greater and higher than man is, and beings so much smaller and less than he, that in reality he himself in turn stands in his world and cosmos as the one or the other of these extremes to such greater or smaller entities.

It is a question of relativity. In order to understand it more clearly we must cleanse our minds of old ideas instilled into us by false education, both religious and scientific, and philosophic too; also must we understand that man's is not the only mind which can conceive universal things, and that our status in the cosmos is not the only one of supreme importance, as we foolishly but perhaps naturally imagine it to be.

Universal life is infinite in its manifestation in endless forms, and manifested beings are incomputable in number; and no one may say that man, noble thinker as he truly is, is yet the only one in the boundless fields of space who can think clearly and imagine rightly and intuit truth. Such egoistic notions of our uniqueness in the scheme of life are really a form of insanity; but the mere fact that we can understand this egoism and struggle against it, shows that we ourselves are not insane.

Therefore, since both in the very small and in the very great, consciousnesses exist and fill all space, we are their children, their evolving offspring. Moreover, insofar as the small universe is concerned, the microcosm, within certain frontiers we as individuals are likewise parents of offspring occupying to us the same relative position that we occupy to those greater consciousnesses.

Biologists today compute that in the body of man there are some fifty trillion cells, more or less — living things, physiological engines — out of which his body is built. These cells in their turn are composed of chemical molecules, which in their turn are composed of atoms; and these atoms in their turn are composed of things still smaller, today called protons, neutrons, and electrons; and for all we may know, these subatomic particles, supposed to be the ultimate particles of matter, are themselves divisible and composed of entities still more minute. Is this the end, the finish, the jumping-off place? Are there particles still smaller than these? If we are to judge by the past, we are driven to suppose that there is no end.

Where dare one say that consciousness ends or begins? Is it of such a nature that we must suppose that it has a beginning, or reaches an end? If so, what is there beyond it, above it, or below it? If consciousness of any kind, man's or any other, have a true limit in itself, then the power of our understanding would not be what it is even in our present relatively-undeveloped stage of evolution. We could have no intellectual or spiritual reaches into these wider fields of thought.

We sense something of limitations along these lines in our

ordinary brain-functioning, because our brain is in itself limited; but every thinking individual, if he examine himself carefully and study his own experiences, must realize that there resides in him something which is boundless, something which he has never fathomed, which tells him always, "Come up higher. Reach farther and farther into the beyond. Cast all that has a limit aside, for limits do not belong to your higher self." This consciousness is the working in man of the spiritual self, the operation in his psychological nature of his spiritual monad, the ultimate for him in this our hierarchy of nature only, for that spiritual monad is the center of his being, and in itself knows no limits, no boundaries, no frontiers, for it is pure consciousness.

Evolution — the drive to betterment. If we look at it as a selfish materialist, then it means superiority over our fellowman for our own advantage; but if we look at it according to the instincts of our own being, it then means self-superiority in the sense of rising on the ladder of life ever higher, with expanding vision, with expanding faculties and sympathies — growing greater from the spiritual core of our being. In other words, it means opening up for that spiritual essence within us wider doors for it to pass its rays through, down into our personal minds, enlightening and leading us upwards and onwards, illimitably through the various cosmical periods and fields of evolution which the monad follows along the courses of destiny.

Man, as one of the spiritual-psychical-physical corpuscles in the living cosmos — as the microcosm of the macrocosm — merely follows the same operations of nature that the cosmos is impulsed, compelled, to follow: development, growth from within outwards, throwing outwards into manifestation as organic activity, as expression in organs, so far as his physical body is concerned, the functions, the impulses within, the drive, the urge to manifest what is within. That, in a few words, is the ancient teaching of evolution.

Now let us take up the question of the evolution of animate beings on this earth more definitely from the theosophical standpoint. We use the word strictly in its etymological sense, as an unwrapping, an unrolling, or a coming out of that which previously had been inwrapped or inrolled. Nor do we mean by evolution the mere adding of physiological or morphological detail to other similar details, or of variation to variation or, on the mental plane, of mere experience to other mere experiences; which would be, as it were, nothing but a putting of bricks upon an inchoate and shapeless pile of other bricks.

No, evolution is the manifestation of the inherent powers and forces of evolving entities, be those entities what they may: gods, or humans, or other animate entities below the human. It is a coming forth of that which formerly had been involved or inwrapped. It is the striving of the innate, of the invisible, to express itself in the manifested world commonly called the visible world. It is the drive of the inner entity to express itself outwardly. It is a breaking down of barriers in order to permit that self-expression; the opening of doors, as it were, into temples still more vast of knowledge and wisdom than those in which the entity previously had learned certain lessons. It is this rather than any mere adding of detail to detail, of variation to variation. Evolution is a cosmical, a universal, movement to betterment.

All entities that infill space are following a path to higher things, all are delivering themselves of that which is locked up within them. All are pouring forth the myriad-form lives which they contain — their inner selves and their thought-forms — their vehicles slavishly following the courses that these entities run. Contrast with this conception the encyclopedia definition of evolution as a "natural history of the cosmos including organic beings, expressed in physical terms as a mechanical process."

The theosophist rejects that definition; first, because it leaves out the main characteristic of evolution, which is unfolding from the less to the greater; it says nothing of development towards higher things. Second, it is a merely mechanical and purely theoretical explanation of things that should be considered by the different sciences in their own various departments, and it expresses no unification of those sciences or does so only in terms of dead matter, formed of atoms — driven together by fortuitous action.

The main thought is that at the core or heart of every animate entity, there is a power, an energy, a principle of self-growth, which needs but the proper environment to bring forth all that is in it. You may plant a seed in the ground, and unless it has its due amount of water and sunshine, it will die. But give it what it needs, let it have the proper environment, and it brings forth its flower and its fruit, which produce others of its own kind. It brings out that which is within it. Yet environment alone cannot produce the flower. *There must be an intelligent entity to act upon environment*.

Thus man, the evolving monad, the inner, spiritual entity, acts upon nature, acts upon environment, upon surroundings and circumstances, which automatically react, strongly or weakly as the case may be. Environment in a sense is an evolutionary stimulus, allowing the expression, as far as its influences can reach, of the latent powers of the entity within the physical body. Herein we find the true secret of evolution.

True evolution is the unfolding and flowing forth of that which is sleeping or latent as seed or as faculty in the entity itself. This works along three lines which are coincident, contemporaneous, and fully connected in all ways: an evolution of the spiritual nature of the developing creature taking place on spiritual planes; an evolution of the intermediate nature of the creature (in man the psychomental part of his constitution); and a vital-astralphysical evolution, resulting in a body or vehicle increasingly fit for the expression of the powers appearing or unfolding in the intermediate and spiritual parts of the developing entity.

Hence, the theosophist of necessity considers the destiny and evolution of the inner parts of the being as by far the most important, because the evolution or perfecting of the physical body has no other purpose or end than to provide a vehicle, progressively more fit to express adequately the powers of the inner nature. Evolution is thus the drive or effort of the inner entity to express itself in vehicles growing gradually and continuously and steadily fitter and fitter for it.

William Bateson, a British biologist, expressed the idea by calling it the "unpacking of an original complex." Turn to a flower or to the seed of a tree. The flower unfolds from its bud and finally attains its bloom, charming both by its beauty and perfume; we see here the unwrapping of what was latent in the seed, later in the bud, later in the bloom. Or again, take the seed of a tree: an acorn contains in itself all the potentialities of the oak which it will finally produce — the root-system, the trunk, branches and leaves, and the numerous fruits, other acorns, which is its destiny finally to produce, and which in their turn will produce other oaks.

Evolution is one of the oldest doctrines that man has ever evolved; because evolution properly described is merely a formulated expression of the operations of the cosmos. But this ancient doctrine of evolution is not the evolution of modern science, either in its view of man or of the cosmos. What then is the so-called evolutionism so popular today? It is really "transformism" — an adopted French word. So what is the

difference between this and the theosophical doctrine of evolution?

Reduced to simple language, transformism is the doctrine that an unintelligent, dead, nonvitalized, unimpulsed cosmos, whose particles are driven hither and yon by haphazard chance, can collect itself into the forms of innumerable sub-bodies, not only on our earth, but everywhere else, these sub-bodies on our earth being called animate entities, all of which grow to nobler things, how no one knows, therefore no one can say. It is a theory, an hypothesis. It is, in short, the doctrine that things grow into other things unguided by either innate purpose or inner urge.

How can a haphazard, helter-skelter universe produce law and order, and follow direction, and suffer consequences, results strictly following causes? We reject the idea because it is unphilosophical and unscientific. Theosophists are evolutionists but not transformists. The idea that one thing can be transformed by random changes into another thing is like saying "give me a pile of material — so much wire, so much wood, so much ivory, so much varnish, and a few other things — and just watch that pile evolve into a piano!"

There is an old Qabbalistic axiom which runs as follows: "The stone becomes a plant; the plant a animal; the animal a man; and the man a god." So it is; but the literal form of these words should not be construed as expressing a perfect Darwinism; not at all.

First, the allusion is to the monad expressing itself through its lowest vehicle, not living in it, but overruling it, working through it, sending a ray down into its lowest body, in this case the "stone." The monad provides the invigorating life force, giving to the stone, which is composed of other hosts of infinitesimals, its vital ray. When it is said that the stone becomes a plant, it means that the infinitesimal entities forming and composing the stone have been evolved to express that invigorating ray on a higher plane as a plant; but the inner life and illumination of the monad directing the whole procedure as a unity never abandons its own high plane.

When the plant becomes an animal, the vehicle expressing the invigorating ray from the monad has become fit for that still higher work. The infinitesimal entities forming the plant have become still more evolved or more expressive of the vital ray, and when this occurs they compose and form the animal body, having passed beyond the stage of expressing the plant or the stone.

When the animal becomes a man, it does not imply that man sprang from the animals, whether from apes or monkeys, or beneath these from the lower mammals. No; it means two things: first, that the inner sun, the inspiriting and invigorating monad abiding always in its own sphere, but sending its ray, its luminousness, down into matter — thereby gives matter kinetic life and the upward urge, and in this way builds for itself ever fitter vehicles through which to express itself. And second, that each such fitter vehicle was built up by and through the infinitesimal lives which at one period of their existence had lived previously in the animal body which they composed; and before this in the plant which they composed; and before this in the stone which they composed; and lower than the stone these infinitesimal lives manifested the monad in the three worlds of the elementals.

The idea of this progressive development from within outwards is easy to understand in principle. We do not teach that a stone literally metamorphoses itself into a plant and then into a animal at some specified time. Or again, from an animal to a man; or from a man into a god.

The physical body, an aggregate of living infinitesimals, itself

never becomes a god. It is a transitory aggregate; in reality a form and a name and nothing more — the *nāma-rūpa* of Hindu philosophy. But these infinitesimals which compose the body, being growing and learning and advancing lives, grow ever more fit to express the nobler faculties of the genius overruling and illuminating them, and thus pass by what the ancients called *metempsychosis* (1) into the composition of the bodies of the respective higher stages. That genius, in the case of the infinitesimals composing man's body, is man's spiritual nature, for genius and monad are virtually equivalent in the meaning I am using here.

Compare this logical and comprehensive doctrine with the scientific hypothesis of transformism: i.e., that, following various supposed "laws of nature" operating in individuals, one body is transformed into another. Thus stones will transform into trees, trees into animals, and animals into men. Biological scientists do not put it in that fashion, but it illustrates the precise meaning of the word transformism.

Charles Darwin, for instance, argued that man evolved from the animal kingdom by small, successive modifications, that is, random variations favored by natural selection, resulting in the survival of the fittest in their particular environment. His ideas were partly based in but generally superseded the speculations some of them exceedingly fine — of the Frenchman, Lamarck, who taught what has since been called the theory of acquired or favorable characteristics; that is to say, that an animate entity, by acting upon nature and from the reaction of surrounding natural entities and laws upon it, acquired certain favorable characteristics, which were inherited and passed on to the offspring. As these characteristics were always for the betterment of the individual acquiring them, therefore there was a gradual advance and progress of that particular racial strain. Let me illustrate this idea of acquired or favorable characteristics by a bit of old doggerel:

A deer had a neck that was longer by half Than the rest of his family's (try not to laugh), And by stretching and stretching became a giraffe, Which nobody can deny!

But both theosophists and Darwinists deny it. If we inquire into the nature of elongate-necked deer, we shall most certainly find that their offspring are perfectly normal. Acquired characteristics by an individual are known not to be transmitted by physical heredity. Individuals of course are tremendously affected by environment and circumstance, by their action upon nature and by the reaction of nature upon them; and through long periods of geologic time it is probably true to say that the body of the acting individual, or succession of individuals, would slowly acquire specific modifications. But this would invariably be along the lines of functional tendencies or capacities inherent in the genes. But if all the representatives of any particular phylum live and die through long generations in some particular environment, do they or do they not acquire characteristics or modifications which become so much a part of their physical being that these modifications are transmitted by heredity? This is precisely the question so warmly disputed.

While evolution is a fact, the main question is whether the fortuitous action through long periods of time of individuals upon nature, and nature's fortuitous reactions upon those individuals, suffice adequately to explain the process. The idea is steadily growing more and more unfashionable, because the problems of the origination and growth of self-consciousness, and of intellectual development, are inexplicable by it. The real question at issue is this: is there not behind the evolving human race, as expressed in its individuals, a vital urge or drive to betterment, working from within outwards? If so, it is true evolution. If the materialistic transformist denies this fact, he has the tremendous *onus probandi* before him, the almost insurmountable difficulty of explaining whence and why and how these marvelous faculties arise and increase in power and expression with the passage of time. No transformist has yet succeeded in meeting this issue.

The Darwinists talk of the struggle for life, but we claim that this so-called struggle has been greatly overdrawn. It has now become quite popular to believe on proved facts that there is just as much mutual assistance and helpfulness in the animate portion of the cosmos as there is combat and struggle; indeed, more. Do we deny, then, that natural selection, the struggle for life and the survival of the fittest are factors in evolution? The simple answer is no. There is nothing new whatsoever about that idea.

The theosophical philosophy-science-religion is based on nature; not alone on the material physical nature which we know with our physical senses, but on that greater nature, of which the physical nature is actually but the vehicle, the expression, of indwelling forces. By nature we mean the entire framework and course of the cosmos, from the ultraspiritual down to the ultraphysical — limitless in each direction. From all the above we can see that to the theosophist evolution extends over far wider fields, and reaches to far greater heights, and we observe it operative in nature in a far more complex manner, than does the relatively simple teaching of modern scientific transformism.

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FOOTNOTE:

1. See Chapter 10, "Reincarnation and Evolution," for a fuller

explanation of the term metempsychosis; see also the author's work, *The Esoteric Tradition*, where the subject of reimbodiment in its several forms is treated in depth. (return to text)

Chapter 3

The Evolutionary Stairway of Life

The psychology of the times following the publication of Darwin's works was so strong that most thinking men could not then be brought to admit that there were any alternative explanations of the phenomena of progressive development in life — human, animal, or plant life — to the scheme of transformism which he set forth. This psychological phenomenon was brought about mainly by the efforts of two men, men of large culture, but vociferously enthusiastic and more or less dogmatic in the presentation of their views; and they ended by convincing the world that the evolutionism, in reality the transformism, that they taught was the actual procedure of manifested life in producing development in all creatures.

These two men were Thomas Henry Huxley and Ernst Heinrich Haeckel. Both were fervent Darwinists. Their influence, on the whole, has not been good upon the mentality of the human race. We do not question the bona fides of either of them, but we do question their influence for good upon thinking and unthinking minds. They taught things that in many important essentials were not true, and taught them in such fashion that their hearers were led to believe that they were true. This influence was brought to bear upon the minds of the people of those days by means of the great literary and scientific standing which these two men in particular had. These two men were exceedingly able; but they spoke with the voice of authority on subjects which they themselves, in many particulars, were merely guessing at. These conclusions are not mine alone. They are also the conclusions of many scientific researchers and thinkers of today.

Take, as an instance, Haeckel. In our sense he was the more dangerous of the two, for the reason that he had a vein of mysticism running through him; and when a peculiar type of mysticism is combined with blind, crass materialism, it inevitably produces certain doctrines which actually degrade psychologically those who hear and follow them. A man who will say that there is nothing but intrinsically lifeless matter in the universe, striving chance-like towards better things; and who in the same breath will talk of "plastidular souls" — the "souls" of cells — these "souls" being explained apparently as the fortuitous offspring of lifeless matter; and who will, in order to complete his schemes of genealogical trees as regards man's developmental past, invent, suggest, and print imaginary stages of development in his books without also calling attention to the fact that they were his own inventions, is not, we submit, truly scientific.

One of these inventions is to be found in Haeckel's book, *The Last Link*, published in 1898. In it he divides the evolutionary history of mankind into twenty-six stages. His twentieth stage he gives as that of the "Lemuravida" (who were placental mammals), which might be translated from its hybrid Latin form as "the grandfathers of the lemurs" — the lemurs being a very primitive type of mammal, supposed to antedate the monkeys in evolutionary time, and often called *Prosimiae* (Prosimians). Now, no one ever heard of these particular "Lemuravida" before, and they have never been found since; and, as Professor Frederic Wood Jones, the British anatomist said, they were simply "invented by Haeckel for the purpose of filling in a gap." (*The Problem of Man's Ancestry*, pp. 19-20.)

Huxley was a man of very similar scientific type of mind, but with another psychological bent to his genius. He was psychologized with the idea that there was an end-on or continuous or uniserial evolution in the developmental history of animate beings; that is, that one type led to another type — the highest of the lower order or family or group passed by degrees into the lowest of the next following or higher group. His whole lifework was based on this theory; and all his teachings — backed by much biological research and anatomical knowledge, and other factors that make a man's words carry weight — had immense vogue for these reasons.

With this viewpoint in mind, he was continually trying to find connecting links by considering likenesses between man, for instance, and the various stocks inferior to him (1); and it must be admitted that in his attempt a great many unlikenesses and dissimilarities and fundamental differences, all of extreme importance, were either ignored entirely, or — may I say it? — willfully slurred over. It was the old, old story, both in Huxley's case and in Haeckel's: what was good for their theories was accepted and pressed home to the limit; and what was contrary to their theories was either ignored or suppressed. We submit that, great as these men were each in his own field, such a procedure is not a truly scientific one. We can excuse their enthusiasm; but an excuse is not by any means an extension of sympathy to the mistake.

The idea which governed and directed the entire lifework of Huxley was not the offspring of his own mind. There is little doubt that he was influenced by the Frenchman, de Buffon, who said, for instance, in speaking of the body of the orangutan, that "he differs less from man than he does from other animals which are still called apes" (*Histoire naturelle*, vol. xiv, p. 30, 1766; quoted by F. Wood Jones, op. cit., p. 21). And Huxley in 1863 wrote the following in *Evidence as to Man's Place in Nature*:

[T]he structural differences which separate Man from the Gorilla and the Chimpanzee are not so great as those which separate the Gorilla from the lower apes [i.e. monkeys]. p. 123 Please note that I refer to end-on or continuous or uniserial evolution only insofar as Huxley thought it existed in the subhuman beings and their progenitors that he knew or thought must exist in order to conform with his theory. As a matter of fact, end-on, continuous, or uniserial evolution per se, is also fully taught by theosophy, but not in the particular line or course which Huxley took for granted: that is, that the beings below man formed or provided the evolutionary road eventuating in modern man.

This the theosophist emphatically denies, for the reason that the ancestors of the simian, and of other mammalian entities now existing, were themselves stocks following their own line of development, even as the human stock now does and then did. In other words, instead of there being one single line representing the ascending scale of evolutionary development passing through the geological progenitors of present-day mammals, towards and into man, there are several, and indeed perhaps many, such genealogical trees.

The theosophical teaching in brief is this: the human stock represents one genealogical tree, the Simiidae another stock, each following its own line of evolution. Yet the latter, the simian stock, originally sprang from the human strain in far past geologic times, and also, indeed, the other genealogical trees of the still lower mammalia; while the classes of the *Aves* or birds, the *Reptilia* or reptiles, the *Amphibia* or amphibians, and the *Pisces* or fishes, may likewise truly be said to have been in geologic times still more remote, very primitive offsprings from the same prehuman (or man) stock.

Huxley thus assumed, because there are undisputed and indisputable likenesses between man and the anthropoid or manlike ape and the monkeys still lower than the ape, that therefore man sprang at some remote period in the geologic past from some remote (but totally unknown) ancestor of monkey and ape. He had never seen such a missing progenitor, but he deemed that there must be one because it was necessary for his theory; and he so taught it, and taught it with emphasis and with enthusiasm. His voice rang out over the entire English-speaking world, and his ideas were accepted as established facts in organized knowledge — science.

We must not imagine for a moment that the natural truth of progressive development, modernly called evolution, is something new in our age or in the age of our immediate fathers, nor that it originated in the mind of Charles Darwin, whose great work, *The Origin of Species*, was published in 1859. The Qabbalistic axiom cited in the previous chapter is but one example.

The idea of there being a ladder of life, a rising scale of entities, some much more advanced than others, some more retarded in development than others, is also a very old one. There have existed in the world among the different races of men, in ages preceding our own, various systems accounting for what man plainly saw among the animate entities of earth — a rising scale of beings: First man, supposed to be the crowning glory of the evolutionary scale on earth; and underneath him the anthropoid apes, and underneath them in descending order the monkeys, lemurs, and quadrupedal mammals; and underneath these, various classes, orders, genera, and species of vertebrate and invertebrate animals; and so forth down the scale.

This idea of a progressive development of all animate entities on earth in present and past geological periods is, indeed, a very old one. Leaving aside for the time being allusions to teachings as to evolutionary development in the archaic writings, such as in the Pūraṇas of India, or in the so-called speculations of Greek and Roman philosophers and thinkers, let us come down to periods more near our own.

For instance, Sir Thomas Browne's *Religio Medici* — quite a remarkable book of its kind and published in 1643 — says:

... there is in this Universe a Stair, or manifest Scale, of creatures, rising not disorderly, or in confusion, but with a comely method and proportion.

Just so. There is a stair of life, what the Swiss philosopher and biologist, Charles Bonnet, and the French thinkers and biologists, Lamarck, de Buffon, and especially Jean Baptiste Réné Robinet, called *l'échelle des êtres* — "the ladder of beings." It was the very recognition of this scale of animate life, swaying the minds of these earlier investigators, that led to the culmination in our time of the theory of evolution; and it was Charles Darwin who is responsible for having formed a more or less coherent structure of argument, building up a logical outline, as far as he could understand it, of the facts of nature — his theory explaining the method or process of change attaining almost immediate acceptance.

While we see this ladder of being, and must take it into a full and proper consideration in any attempt to ascertain the rising pathway of evolutionary development, is that a sufficient reason for imagining — and teaching these imaginings as facts of nature — that there has been a progressive development running through these particular and especial discontinuous phyla or stocks, and eventuating in man?

This is one side of our quarrel with modern transformism. The series is obviously discontinuous; none of the steps of this ladder melts into the next higher one, or inversely into the next lower, by imperceptible gradations, as should be the case if the transformist theory were true. Biologists themselves soon found that this so-called stair or ladder of life was discontinuous. As their knowledge of nature increased, they saw that none of these great groups — invertebrates or vertebrates or the classes within them — graduated into each other.

Between these various groups there were vast hiatuses without known connecting links; and researchers hunted long and vainly for "missing links," and found them not. They found them neither in any living entities, nor in those forming the formerly animate record of the geological strata; and those missing links have not yet been discovered. These gaps, therefore, made the biological series of living entities discontinuous instead of continuous, as Darwin's method requires.

Darwin and his followers imagined that they had perceived, by investigating various stages in this presently existing ladder of life, the route to present-day man. But every attempt to find missing links — that is to say, links binding the highest of one particular phylum or stock to the lowest of the next superior phylum or stock — has always broken down. There are wide hiatuses where, according to the transformist theory, these missing links should be. One of Darwin's maxims was *Natura non facit saltum*, "Nature makes no leaps" — which by the way is exactly what theosophists assert. Evolution is a steady progression forwards, he said, from the less to the more perfect, from the simpler to the more complex. There is here no ground for dispute between our two otherwise extremely diverse views as to the nature and course of evolution.

What then is the explanation of this discontinuity — of this lack of connecting links between the phyla or stocks? For we find this discontinuity in every instance where we pass from one great

stock or phylum to the next. It is not the case of a single instance; it is not a unique situation, explainable perhaps by certain causes, of which we are ignorant; but this discontinuity is repeated between every one of the great stocks.

The fact is that there is not, as regards the beings existent today, or rather as regards their progenitors in geological eras of the past, an end-on evolution or uniserial evolution up to and including man, the supposed crown of that biological series, *in the manner that we have been taught*. Instead, there are a number of discontinuous stocks, each passing through various stages as marked out by their different orders and families and genera and species. Research has shown that instead of the highest of any subphylum passing into the lowest of any higher subphylum, it is almost invariably the lowest or oldest representatives of each phylum which are most alike in primitive features. It is so with all the groups, particularly so in the case of the vertebrates or animals with backbones, that is to say the fishes, amphibians, reptiles, birds, and mammals.

The simple reason is that the farther we go back in time, the nearer we approach the junction point or starting point of the various mammalian (or, for that matter, premammalian) genealogical strains. In other words, the farther we go back towards the origin of any such mammalian group, the nearer we approach to the general and common point of departure — and the nearer those earliest progenitors of each such great group will resemble each other in basal mammalian simplicity. On the other hand, the farther or later we recede from that common point of departure, in other words, the nearer we approach our present age, the more widely separate the representatives of these various great stocks are from each other, on account of the differing natures and the inherent forces evolving through them. What is this common point of departure? It is the human stock. The human race considered as a whole is the most primitive of all the mammalian stocks on earth today, and always has been so in past time. I mean by this, that it is the primordial stock; it is the originator of the entire mammalian line, in a manner and according to laws of nature which we shall reserve for a future study. The human stock was the first mammalian line; obviously it is at present the most advanced, and the logical deduction would be that it is likewise the oldest in development. Having started first, it has gone the farthest along the path. But we will not press that point for the present.

Man is, in fact, the most primitive of *all* stocks on earth. Remember, however, that in the present great evolutionary period on earth, or what in theosophy is called the present "globeround," it is the mammals only that trace their origin from the primitive human line.(2) The other vertebrates, as well as the great groups of the invertebrates, likewise were derived from the "human" stocks, but in the previous globe-round — comprising a vastly long cycle of evolutionary development, which was ended aeons upon aeons ago, and which itself, i.e., the former globeround or great tidal wave of life, required scores of millions of years for its completion. Evolution as taught by theosophy calls for a time of vastly long duration; indeed, many hundreds of millions of years.

The Darwinists have never been able adequately to prove the thesis of Charles Darwin, considered as the mechanism or method of evolution, because they could not prove an end-on, continuous, or serial developmental growth from any one of the lower great groups into the next higher great group; or, more generally speaking, from the lowest life up to man. There is along *that scale*, let me repeat, no end-on evolution, and none knows this better than modern biologists themselves.
Yet theosophy teaches that evolution must be an end-on, continuous, or uninterrupted serial evolution. An evolution of form which consists mainly of jumps from great group to great group is no evolution at all, and presents anew the very riddle which the Darwinian theory was expected to explain. The problem is cleared up when we remember that evolution is continuous for each stock along its own particular pathway. Instead of there being one ladder of life, leading up to man who is the crown of that ladder, as it were, there are many such ladders of life, each such being composed of one of the great groups of animate entities. Instead of there being one procession of living entities pursuing an uninterrupted course from the protozoa or one-celled animals up to man, there are various ladders of life along each of which a procession of its own kind climbs. It is essential to understand this idea, because it expresses some of our main points of divergence from the Darwinian theories.

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FOOTNOTES:

1. [Throughout this book the author's generic use of the term "stock" may refer to any biological group, from phylum to species.] (return to text)

2. [See "The Rounds and Their Subdivisions" in Appendix 1]. (return to text)

Chapter 4

Man the Repertory of All Types

"Man is his own history." This is a profound epigram which covers the entire outline of the evolutionary progress of the human soul. All things reside in man. He is the epitome of all that is — the microcosm or replica, the duplicate, the copy, of the macrocosm. Therefore he has everything in him that the macrocosm has, although not necessarily fully developed. On the contrary, many of the higher forces, qualities, potentialities, as yet but very feebly show through the veils which enshroud his higher nature; nevertheless he possesses all the elements that his Great Mother — the universe — has, either latent or sleeping, or expressing themselves through his self-conscious side.

Man also holds within himself the history of all inferior types. Man is, and has been, and will be, the foremost of the hierarchy of evolving entities on our earth, the foremost in evolutionary development; and as the leading stock, he therefore is the repertory, the storehouse, the magazine, of all future types, even as he has been of all past types. He throws off these types as he evolves through the ages; each of them becomes in its turn a new stock, and follows thereafter its own individual line of evolutionary development.

It was in this manner that were originated all the stocks below man. Every inferior or subordinate stock was originated as the vital off-throwings of man, these off-throwings being composed of cells of man's body. And each one of these cellular organisms, succeeding its derivation or independent origin from the human stock, immediately began to produce its own stock from the forces inherent and latent in the cells which composed it.

It was these buds, these cellular off-throwings of man from his

body, which originated all the stocks below the mammalia in the *preceding* globe-round or great tidal wave of life, hundreds of millions of years ago. Those particular classes were the birds, the reptiles, the amphibians, the fishes, and the vast range of biological life included under the general term of the invertebrates.

The mammalia, however, were the off-throwings from man in the *present* great globe-round or great tidal wave of life, and had their origin from prehuman man in the very early part of the Mesozoic, and very probably in the last part of the preceding or Paleozoic era, when man himself had become a physical from a semi-astral being.(1)

I do not mean by what I have said above that these types were or are the bodies in which man once lived, or will live. Not at all. The whole matter of the vital off-throwings is a fascinating and mysterious one, mysterious simply because not yet fully understood.

The human body is an exceedingly absorbing subject in any consideration of the manner in which evolution works. Physical evolution deals with it but in a secondary or effectual manner, not in a primary or causal manner. I mean by this that the human body merely reflects the various changes in progressive development which actually proceed on interior or causal planes. I have already pointed out that evolution, as we use the word, means the unfolding, the unwrapping, of that which previously had been infolded and inwrapped as potencies in the structure of the cells of which the body is composed; for in the infinitesimal lie the seeds of the world we see about us.

Each cell is, in fact, a living entity, a physiological organ, with inherent capacities, inherent tendencies, each possessing its own inherent urge or drive towards self-expression. According to theosophy, this inherent urge or drive originates in the invisible entity from which it proceeds; because, unless there were some cohering power, some force of coherence working in the structure of the individual, no such thing as even a simple cell could exist; it could not even come into physical being or manifestation. It is held together and controlled by the invisible entity behind it, which expresses itself through the finer or more ethereal part of these tiny cells, because that finer or more ethereal part is the nearest in ethereality to its own nature.

A cell is, in fact, an infinitesimal focus of cosmic forces, a channel through which they pour forth into manifestation on our physical plane, each possessing an incomputable capacity for change and growth, being in very fact a dynamo of forces. The incarnating entity is a bundle of such forces and expresses itself through the finer or more ethereal part of the cells, because that finer part is the nearest in ethereality to the nature of the force or forces that are seeking expression.

These forces working in the ethereal realms of matter are extremely subtle; their rates of vibration are highly individual. Yet with all their subtlety they have tremendous power. Could such a force be focused directly, let us say, upon the outer physical cell, such a cell would vanish, because it would be disintegrated; the atoms of which the cell is composed could not stand the strain of the forces pouring through them, and the structure of the cell would be wrecked, the component parts of the atoms wrenched apart. But it is very rare indeed that a force is so focused in animate entities, although it does happen constantly and continuously in the cosmic labor. The operation of these ethereal substances which we know as forces is, as a rule, more generally diffused.

Now every cell in man's body is man's own child. Every one of the

estimated fifty trillions of cells sprang from him, from his inner self. The dominating entity, the inner man, gave birth to them all. As common parent of them all and working through them, he is their "oversoul." He in a very true sense is their god, even as the divine beings who gave us spiritual birth we call our gods; and just as these divine beings in their turn sprang as spiritual atomic corpuscles from entities still more sublime, and so forth, still higher — an endless hierarchy of ascending and descending intelligences and lives.

It can be seen from the above that in a cell, or in the atoms of which a cell is composed, there are uncounted and actually almost innumerable possibilities of development, locked up or latent potentialities, all seeking expression. Many have to bide their time for ages before that opportunity comes, if their opportunities ever do come; and if and when these potentialities find in their environment an open door for expression, out they go, a rushing tide of life.

Therefore, the cells that man once threw off resulted in the lower creatures, who are not at all degenerate men, as might be supposed, but actually lower types, beginning their evolutionary course towards higher things, springing from man, the repertory or magazine of all types beneath him.

Let us remember that the physical encasements of early men were far more loosely coherent than they are now, and of a much more subtle and ethereal matter than that of man's present physical body. This was because the psychical and physical dominance of the human kind over the cells composing those primitive human bodies was far less strong and less developed than it is now. In consequence of this relatively weak control over the physical cells, each one of such cells was more free than now it is to pursue its own particular individual drive or urge. Hence, when any one of the cells forming part of such early human bodies freed itself from the psychical and physical control that then existed, it was enabled to follow, and instinctively did follow, the path of self-expression. But in our days when the psychical and physical dominance of the human incarnated entity over the human cells composing the human body is so strong, and because the cells have largely lost their power of individual selfexpression through the biological habit of subjecting to that overlordship of the human entity, such an individualized career of a cell in self-development is a virtual impossibility. However, in those early days of the primordial humanity, the case was very different. A cell or an aggregate of cells could separate itself from the then human frame — if "human" is the proper word to use in such connection — and begin an evolutionary career of its own. This in large degree explains the origin of the various stocks now inferior to the human.

Man has been the storehouse (and still is) from which these other stocks originated and towards which, moreover, they are ultimately straining — towards which they are ultimately evolving. These cells which compose his body, had they not been held in the grip of the forces flowing from the inner dominating entity, man himself, for so long a time that their own individual lives, as it were, have been overpowered and bent in his direction and can now follow almost no other path than his; had they not been so dominated they would, by the amputation of a limb for instance, immediately begin to proliferate along their own tendency-line, to build up bodies of their own kind, each one following out that particular line of life force, or progressive development, which each such cell would contain in its cellular structure as a dominant, thus establishing a new ancestral or genealogical tree.

What is the reason that today a free human cell or an amputated

human limb or a bit of the human body cut off from the trunk does not grow into another human being or, perhaps, into some inferior entity, as was often the case in the zoological past? In all the vertebrate animals, that is to say, the higher animate beings in the evolutionary scale, the psychic and material grip of the dominant entity over the cells of its body is so strong that these cells obey the more powerful drive communicated to them from the dominant entity working through them, and hence can follow only that dominating drive which they do through the force of the acquired biological habit. They have largely lost the power of selfexpression and self-progress along what would be under different circumstances their own individual pathways. But that liberty of action and that free field for self-expression were theirs in greater or less degree in past times.

In some of the lower creatures there exists today a faculty of selfrepair by which a creature, if it lose a limb or a tail, will reproduce for itself a new limb or tail. A certain kind of worm well known to zoologists will, if divided into two, become two complete worms. Here is a case where the faculty of dominance, or the dominant as Mendel called it, is still weak in its control over the entire cellular structure of the body through which it works, and each cell composing that body, if left to itself — even more so if you could take such a cell out of the body and give it appropriate food and environment — would have an exceedingly good chance of starting upon a line of evolution of its own, following its own inherent tendency or potency or urge, and thus bringing forth some new stock. But as this case rarely now or perhaps never arises, the cells are impelled to follow the reproductive tendency of the limb only to which they belong.

This method of the regeneration of lost parts, or of reproduction, prevailed in a past time in the human frame, as much as and as fully as in the cases of the lower creatures to which I here allude. And it was this general method of reproduction which gave rise to the various animate stocks, the highly specialized descendants of which we find on earth today (except those stocks which have become extinct). But this cannot happen in our period of evolution. The cellular structure, the inherent tendencies or potencies of the cells belonging to the bodies of the higher creatures, have the possibility of following only that particular line of unfoldment or of growth which the dominant entity allows them to have.

It is a case where the individual svabhāva, i.e., the individual capacities or latent tendencies of the cell, are submerged by the overlording or dominance, so to say, of the invisible entity which works through those cells. The inherent potencies of those cells have become recessive, the consequence being that the cell's own individual potencies can express themselves, if at all, only when the power of the dominating entity is withdrawn, perhaps not even then if the submergence of the cell or native cellular potencies has been too great. In this last case they die.

Man still remains the storehouse of an incomputable number of vital or zoologic tendencies latent in the cells of his body; and though the old method of their manifestation has ceased, new and different methods will supersede the old. The urge of life working through the tiny lives of man's physical body will nonetheless inevitably find new methods of expression, and these latent or sleeping tendencies will in far distant future ages find appropriate outlets, thus, perhaps, giving origin to new stocks in that far-distant future. It should not be forgotten, however, that such originations of new stocks will grow fewer and fewer as time goes on towards the end of our globe-round, due to the growing dominance and ever-larger and wider exercise of the innate powers of the evolving human being, swamping and submerging all tendencies of a minor kind and of inferior biologicalenergy.

This fact that a cell or aggregate of cells is subjected to the dominance of an oversoul, the incarnating and incarnated entity, is simply the manifestation of what the theosophical teachings call the action of the law of acceleration and retardation, one of the subordinate lines, so to speak, of the general operation of karma or the law of consequences. This law of acceleration and retardation simply means this: when a thing occupies a place of authority in the evolutionary scale, or a position of dominant power over other and inferior or subordinate entities, through the operation of its own inherent forces, or indeed through the inertia of its physical being, no other entity under its sway can find a free field for self-expression while so placed. And every entity so constituted — or, what comes to the same thing, every other entity of which that dominating entity is composed — must obey the dominating urge, the dominating impulses of that overlord. The dominant entity pursues an accelerated course; while the inferior entities under its sway or composing its various parts are retarded in their individual courses of development, which they otherwise freely would follow.

I will give you a poor but perhaps graphic illustration of my meaning. When a railway train rushes along the rails, what does it carry with it? All the living entities in the various coaches, each one on its own errand, yet all for the time being helpless in the grip of the power to which they have subjected themselves. In somewhat similar manner the cells of the human body are subjected to the law of retardation in evolutionary development, so far as they are individually concerned, until the time comes when they shall have reached, through obedience to the dominating power, self-consciousness of their own, and thereafter grow into nobler learners and more individualized evolvers. Evolution is not merely an automatic response to external stimuli, but it is first of all action from within, unceasing attempts in self-expression; and each response to the external stimuli, which the natural environment provides, gives opportunity for a larger and fuller measure of self-expression.

But I feel that I must add, that while the word *evolution* is usually used, and correctly used, of progressive advancement from the less to the more perfect, yet the term likewise includes all orders of manifestation which bring out merely that which is inwrapt; consequently, there is in one sense an order of inverse evolution which the word itself fully covers. This may seem a little irrelevant, but it actually is important as being an explanation as to why certain animate stocks persist in life, from generation to generation, without showing any obvious or indeed actual advancement of type. This is another aspect of the law of acceleration and retardation. An entity in accelerated evolution proceeds steadily, serially, step by step, from the less to the more perfect; but a stock under the action of the law of retardation may remain for ages more or less stationary — an interesting and indeed important side issue of our subject.

The law of retardation operates on a stock, or on any individual animate entity, when a more evolved stock appears on the scene. The law of acceleration, on the other hand, operates in the cases where an evolving stock finds the field free and without barriers or hindrances to the full expansion of its innate potencies, faculties, powers. The animate entities below man have descended to our own time, or in some cases their dwarfed representatives(2) have so descended, though evolving far less fast than the human stock has done because they are under the operation of this law of retardation.

The progenitors of the lowest animate beings sprang from man in the preceding globe-round, as I have already explained. The mammalians, however, came from the human stock in this present globe-round, during the latter part of the second great root-race and the early part of the third root-race. Man is of course himself a mammal, and therefore these other stocks necessarily partook of the nature of their originating strain.

All these various stocks of animate mammalian entities on earth, all following their own especial lines of development, along their own genealogical trees, were the offsprings of the primitive human stock in that immensely distant past — a time when what we call the "mindless races" lived, before godlike entities descended from the spiritual spheres in order to enlighten the waiting human material organisms with their divine rays. These earliest mammals were originally buds or offspring from that mindless and imperfect human stock; but, as the human spiritual entity was not yet then dominant in the human bodies of that time, and could not fully hold in abeyance the vital potencies of the cells which composed those buds which sprang from the bodies of early man, therefore each one of such bud-bodies or aggregates of buds immediately began to grow, following its own evolutionary tendencies or inherent urges, each producing only that which it could produce, that which was inherent in itself; evolving, unrolling, unwrapping, its own inherent character or nature.

The apes and the monkeys sprang from man likewise, but in another manner. The monkeys were born from the mindless human race which, having no self-conscious mind, having but instinct and a vague and diffused physical consciousness, in many cases allied themselves with animal beings who also originally had sprung from the human stock, though not manifesting the dominant evolutionary tendencies for growth into humanity. The results of this union were the lower simian stocks, the monkeys, and this occurred during the Mesozoic or Secondary era, probably during the Jurassic period.

At a later date, towards the end of the great fourth stock-race, during the Miocene epoch, when that race had already far passed its climax of evolution and was represented by many degenerate remnants, some of the degenerate Atlantean or fourth-race men repeated "the sin of the mindless" with the lower simian stock then existing; and this second and shameful union originated the anthropoid apes. Hence it is small wonder that they resemble man, their half-parent, in so many particulars, even though that human half-parent was at the time degenerate.

Yet even during the late Miocene epoch, and in fact reaching into the Pleistocene, the great fourth root-race was represented still by brilliant local civilizations in various parts of the earth. But these were sporadic afterglows, so to say; for the culmination of fourth race evolution had occurred long before — in the early Miocene.

As pointed out earlier, though there is a resemblance between man and the apes and monkeys, the two latter are more widely and divergently "evolved" along their own line than man is along his. By now, however, their progressive evolution has very largely ceased, because the door into the human kingdom, towards which all the great stocks below man have ever tended, was closed eight or nine million years ago, more or less, while man will continue to progress as long as this planet bears its groups of living entities.

When I say that the lower groups have almost ceased to follow the path of progressive evolution tending towards man as a goal, I do not mean a transformation of an animal body into man; nor do I mean that they are standing perfectly still in an evolutional sense, but only that their rising along the ladder of life has ceased for this globe-round. Man's destiny, on the other hand, is to draw steadily and progressively, and as time passes ever more rapidly, away from the lower kingdoms. The destiny of these latter is to die out as time passes, to reappear at the proper time in the next great globe-round.

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FOOTNOTES:

1. In speaking of the different geologic ages, I am here following *The Secret Doctrine* (2:688, 693, 709-16), where H. P. Blavatsky adopted the nomenclature of the system used by Lyell and Lefèvre. Modern geologists have increased the length of the geologic periods enormously since H. P. Blavatsky wrote, and it should be clearly understood that throughout this book her shorter time-periods are used. [See Appendix 1]. (return to text)

2. There are, of course, certain groups of animals which now live no more but which once did live on this earth: for instance, the gigantic reptiles of the Mesozoic or Secondary era. We may say, however, that they are represented today by their dwarfed and pygmy descendants still among us, such as the lizards, probably the serpents, frogs, etc. (return to text)

Chapter 5

Proof of Man's Primitive Origin

The theosophist, although he places the body of man squarely in the animal world, does not mean by this that man's physical encasement is evolved from the animals. He means, on the contrary, that actually the animal world, and in fact the worlds below it, were originally derived from man himself in far past ages of the life history of our globe.

This means that man is the most primitive of all the stocks, and that he is thus the most highly evolved. He has been able to evolve the inner vehicles, the inner organs, which give him power to express his inner faculties and spiritual parts. In the animal, indeed, lie the potencies of everything in the universe, latent or active, in germ or in manifestation as the case may be. It has all the possibilities of evolutionary growth that man has, but the animals have not yet evolved the inner organs suitable for the expression of these inner powers.

It is because of man's superior status, as an *inner* entity, that we elevate the human stock into a kingdom of its own, a fourth kingdom — that of man; for man possesses unique intellectual and psychological faculties, which no other creatures known to us possess in anything like so great a degree.

Now what proof have we that the human stock is the most primitive on earth? To answer this question, we shall have to go into a number of technical biological details. I have made notes from various biological works of a number of interesting skeletal and muscular features which man has, in order to show the extreme primitiveness of the human stock, more particularly with relation to his mammalian peculiarities.(1)

1. The bones of the human skull articulate at the base of the skull

and on the sides of the braincase in a manner which is characteristic of primitive mammalian forms, but they show a very marked contrast with the arrangement of those same bones in the anthropoid apes and the monkeys. However, the human skull in these respects exactly resembles the same handiwork of nature as is found in the case of the lemurs, a group of primitive mammals preceding the monkeys in evolutionary development and time, according to the Darwinists. Hence the conclusion that we can draw from this anatomical fact is that since the arrangement in the human skull is primitive, therefore the anthroproids and other simians show an evolutionary development away from the primitive mammalian base, which man in common with the lemurs far more closely represents.

2. The nasal bones in man are exceedingly primitive in their simplicity, while those of monkeys and anthropoid apes are not, resulting for them in a wider departure from the original or primitive strain.

3. The primitive architecture of the human skull is likewise shown in a number of features in the face. Professor Wood Jones in *The Problem of Man's Ancestry* (p. 31) says:

The structure of the back wall of the orbit, the "metopic" suture, the form of the jugal bone, the condition of the internal pterygoid plate, the teeth, etc., all tell the same story — that the human skull is built upon remarkably primitive mammalian lines, which have been departed from in some degree by all monkeys and apes.

4. The same anatomist likewise points out:

The human skeleton, especially in its variations, shows exactly the same condition [of primitive mammalian simplicity]. 5. Another quote from the same source:

As for muscles, man is wonderfully distinguished by the retention of primitive features lost in the rest of the Primates.

As regards man's primitive muscular features, let me first point out that in skull, in skeleton, and in the arrangement of his muscles, man in many respects is an entity of very primitive type, and has not the same large and wide specific variations that the monkeys and apes have followed in their respective line. Let us take the *pectoralis minor* muscle, as an instance. This is a muscle which runs from the ribs towards the arm. It is attached to the coracoid process of the shoulder girdle. In the anthropoids it is attached to the coracoid in part, and in part to a ligament passing downward to the humerus, that is to the bone of the upper arm. In the monkeys it is attached still farther down the same ligament, but also to the humerus; while in many quadrupeds it is attached to the humerus altogether.

Now, the usual way of attempting to prove the evolutionary development of man from lower animals is to trace skeletal or muscular identities, variations, or analogies, first in the apes, then in the monkeys, then in the lemurs, then in the quadrupeds; and if the researcher find similarities or identities or analogies in this examination, the conclusion is immediately drawn that these animals form a part of the evolutionary road up which the human stock has climbed in its development. In other words, that man is the latest in the series of living forms, and that these and other creatures were his predecessors and formed the links of the evolutionary chain, the lowest being the original or primitive form.

In our present instance, that of the *pectoralis minor* muscle, the coracoid process is the primitive attachment of this muscle, and

man and some other primitive animals retain today this very ancient type of insertion. The transformists would say that in its evolutionary development this muscle has climbed up from the humerus, which according to them is its primitive attachment, and having risen along the ligament has finally reached the coracoid process in its highest form of development in man. But this is an exact reversal of the truth as shown by an anatomical examination.

6. The human tongue is also very primitive in type. The chimpanzee's tongue resembles man's in some degree; yet man's tongue is far more primitive than that of any monkey or anthropoid ape, the nearest to man of the animal entities beneath him in the supposed ascending but yet discontinuous scale of evolution, through which, according to the Darwinists, the human stock evolved.

7. The human vermiform appendix is curiously like that of some of the marsupials or pouched animals of Australia. It is very different in monkeys and in apes.

8. The great arteries arising from the arch of the aorta in man have the same number, are of the same kind, and are arranged in the same order, as is the case in a most curious and very primitive little animal, some eighteen or twenty inches long, found in Australia and Tasmania, the *Ornithorhynchus anatinus* — commonly called the duckbilled platypus. It is the lowest of all known mammals, because of its mammary glands, which are without nipples; yet it lays eggs. As said, the number and kind and order of the great arteries named are the same in man and in these primitive mammalians. On the other hand, the arrangement of these arteries in the anthropoid apes and the monkeys is departed from.

9. The human premaxilla, or the bone which carries the incisors

or chisel-teeth, that is to say the front teeth, no longer exists as a separate element in man, if it ever did so exist; but in all the apes and monkeys and in all other mammals, this premaxillary element is shown on the face by suture lines, marking the junction with the maxillary bones. Because in man it is not a separate element, but is a separate element in all other mammals, it is therefore a specific human character. With regard to this bone, please mark that it is already established as a distinguishable character in one of the earliest stages of the development of the human embryo, when that embryo is no more than three-fourths or seven-eighths of an inch long.

The earlier a specific character appears in the embryo, the farther back in time must it be searched for in the evolutionary history of the stock to which the embryo belongs. Further, it is said that the embryo repeats in its growth first the grand features of the class to which it belongs; then come the features, as the embryo grows, of the order to which it belongs; then those of the family; then those of the genus; then those of the species — and these specific characters come last of all. That is the alleged biogenetic law of embryonic recapituation. Hence, if we find any character, any specific feature, which appears in the early stage of embryonic growth, this law says that we must search far back in the evolutionary history of the stock to which the embryo belongs in order to find its first appearance there.

10. The human foot is another primitive character. An ape's foot is in some respects more like the human hand than its own hand is. Instead of being a foot in its function, it is really a hand in function, because it operates like one on account of the opposability of the big toe, which can be made to diverge or stick out almost at right angles to the digits of the ape's foot.

But turn to the ape's hand, to that of the gorilla, for instance, and

you will see that the thumb is short as compared with the human thumb. If you will look at your hand, you will find that the third finger, the third digit, is the longest of the five digits; it is likewise so in the hand of the ape, and in the hand of the monkey. It is likewise so in the foot of the ape, and in the foot of the monkey. It is for this reason that I prefer the old descriptive term given to the anthropoid apes and the monkeys in 1791 by Blumenbach, who called them *quadrumana*, or four-handed creatures, because the feet of these animals can be used as hands as readily, or perhaps more so in some respects, than the hands themselves.

T. H. Huxley in his enthusiastic championing of the Darwinian theory did a great deal to belittle the unique and specific character of the human foot, and this work must be thoroughly undone. Man's foot is, as just said, unique in nature; no other animate entity has a foot that can compare with the typically specific features of the foot of a man.

The typical human foot is arranged so that the big toe is the longest of the five digits; and the other toes usually range in a progressively shorter sequence to the fifth and shortest. It has been said that this specific shape of the human foot is the result of wearing shoes — and I cannot but feel that this rather extravagant guess is a desperate effort to attempt to account for the wide divergence of the human foot from that of the apes and monkeys and of the supposed monkey-ancestors of man.

A baby's foot shows exactly the same character that I have spoken of; the unshod savage's foot also shows exactly the same character; and while it is true that on some old Greek statues of the gods or of human beings, the second (but not the third) digit is occasionally slightly longer than the big toe, that happens also today in some living individuals. In any case, it is not the third digit of the human foot which is ever the longest of the five, which it invariably is with the apes and with the monkeys.

Let us now turn to the human embryo in search of further proof of our point. An examination of the growing infant *in utero* shows that from the very first period when its foot is outlined in embryonic growth, exactly the same unique character is seen as in the foot of the human adult. Hence it must have appeared early in the evolution of the human stock. Further, the foot of the embryo is never at any time in its growth an ape's or monkey's foot; it is typically human from the time of its first appearance, and must have been acquired early in the evolution of the human stock.

11. Let us now turn to another example, to the *peroneus tertius* muscle or third peroneal muscle of the leg, leading down into the fifth metatarsal of the foot, into which its tendon is inserted. This is one of the important muscles which aid a man to stand upright and to walk; but it is found in no other mammal whatsoever. It is purely human. Further, it is found in the human embryo early in its development. Therefore, it, like the foot to which it belongs, must be a specific character evolved early in the growth of the human stock. From this we again draw the conclusion that man's upright posture must have been his posture from the very origin of the human stock, or nearly so.

The old theory was that man only a relatively short time ago was but an improvement upon his alleged ape-ancestor, which, in its halcyon days of freedom from any moral responsibility whatsoever, ate fruit and insects between intervals of swinging from branch to branch of some primeval forest tree; and which, on the rare occasions when it came down to the ground, ran around on its knuckles as the ape does today.

This picture of the Saturnian Age of man, in late Miocene or in the Pliocene epochs, may be an interesting exercise of human ingenuity, but we search the geological record and the skeleton and muscular system of man in vain for any real proof of it. It was a theory, a speculation, doubtless enunciated in good faith by the vocal proponents of Darwinism in their efforts to trace man's ancestry through the anthropoids. A man may be very enthusiastic and sincere, and yet not be a truthful exponent of the facts of nature if he allow his imagination to run before his scientific caution. Enthusiasm and truth do not necessarily clasp hands together.

12. The human hand and forearm are likewise primitive in many features. Professor Wood Jones further says, concerning the human hand and forearm, that in their muscles, in their bones, and in the joints, they are astonishingly primitive, and therefore could not have been evolved at a late date in man's evolutionary history. If you have ever examined the pictures of extinct reptile fossils you will see that the hand or paw and the forelimb bear an amazing resemblance in general appearance to the human hand and forearm.

The transformists have often told us that the line of evolutionary development of the human stock ran back through the apes and the monkeys into the quadrupedal mammalians. If this theory were true, man should even today show in his forearm and hand distinct traces of his passage through that alleged line of ancestry. In other words, man's arm and hand should still bear remnants or traces of formerly having had to support his body when he was a pronograde mammal, like the horse and the dog and the ox, etc. The fact is, however, that this idea has now been given up by transformists, as far as I know, thus creating another wide hiatus in the supposed ladder of life given in the Darwinian or neo-Darwinian theories setting forth the ascending evolution of man.

Professor Wood Jones, who is an anatomist by profession,

nevertheless believes that while man never was a quadruped in his past evolutionary history, his developmental line diverged from a small arboreal animal, the tarsier. This is still a very primitive creature showing little development from its remote ancestors geologically speaking; and is represented in the early Eocene epoch of the Tertiary period by *Anaptomorphus*, a genus of creatures closely resembling the present-day tarsier in all essentials. He points out that the tarsier and man are astonishingly alike in a number of primitive features such as the architecture of the skull, the peculiarities of the arteries which arise out of the aortic arch; and also with regard to the kidney of the tarsier which is formed on the same type that the human kidney follows.

We have adduced a number of anatomical instances in proof that man is the most primitive mammal on the globe today, and always has so been. Further, we have pointed out that each of the stocks below man — specifically the anthropoid and simian stocks — has wandered far more widely from that original primitive basal simplicity than man has; that man retains more of the basal mammalian features or characters in his body, that is, in his muscles, and in his skeleton, than any other animal now living on earth; and that the apes and monkeys have wandered far afield in that respect, far more so than man has wandered from the primitive mammalian stock, *which was early man himself*.

With all this evidence before us to prove man's primitive origin, what becomes of the Darwinian "ascending ladder of beings," each stage of which is more complex than the one preceding it, and which is supposed to have eventuated in man as he is today? The two theories cannot exist side by side. One or the other must go by the board; and modern research and deduction is moving, albeit slowly, away from the Darwinian theory, towards the more enlightened conception that man leads in the evolutionary history of the various stocks that this earth has produced.

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FOOTNOTE:

1. Drawn chiefly from *The Problem of Man's Ancestry* (1918), by Frederic Wood Jones. This subject is more fully handled by the same author in two other works: *Arboreal Man* (1916), and *Man's Place among the Mammals* (1929). [See Appendix 2 subhead, "Simians Stem from Man"; also Wikipedia entry for biographical information about Frederic Wood Jones.] (return to text)

Chapter 6

Man and Anthropoid — 1

So far as the ancestral derivation of man is concerned, we assert that he has not one drop of anthropoid or simian blood in his veins, and never had. I wish to emphasize this, because we must free our minds in many important respects from that teaching which a very large part of the public has unconsciously accepted as a true statement of the facts of man's ancestral tree. We must make our minds receptive of and more concordant with new discoveries, newer truths which the great researchers into nature's mysteries have found out for us.

It is true that theosophy does not teach that primitive man was physically fashioned as he is at present. On the contrary, man himself has evolved from a more primitive to a more perfect form even as other and lower creatures have so evolved. And it is a fact that though he possessed the same general type of physical structure that he now has, he actually was apelike in appearance, but he never was an ape. I repeat, *at no time was man ever an ape*, for the simple reason that the ape appeared in geologic time far later than did physical man, being in part an offspring of an early human stock. The ape in some degree even today resembles in physical appearance his human half-parent of that distant time.

It should be remembered, moreover, that the apes, being of halfanimal and half-human origin, are far more beastlike in appearance than man ever was, even in those early ages. Therefore, when we say that man, in early geological periods was "apelike in appearance," we merely mean that the evolving human monad passed through human bodies which at one stage of their evolution had what now would be called certain modified yet apelike looks; but these, as time passed, became more and more refined and human in appearance until they are what they are now.

Professor Wood Jones corroborates this viewpoint:

we may say that not only is he [man] more primitive than the monkeys and apes, having become differentiated specifically in an extremely remote past, but also that he has been a creature which walked upright on his two feet for an astonishingly long period. — *The Problem of Man's Ancestry*, p. 38

Likewise Professor Boule of Paris concludes, from a close study of the skeleton-fossil of the individual discovered in 1908 at La Chapelle-aux-Saints, that man had

been derived neither from the Anthropoid stem, nor from any other known group, but from a very ancient Primate stock that separated from the main line even before the giving off of the Lemuroids. — "L'Homme fossile de la Chapelle-aux-Saints," *Ann. de Palœontologie*, 1912; quoted by Wood Jones, op. cit., p. 34

Yes, provided that we add that that "very ancient Primate stock" was man himself — not man as we now know him, but the man of that geologic period which theosophy states to have been in the Secondary times; more definitely in the early Jurassic. Nor did the human stock "separate from the main line," because man was himself that "main line."

It is unfortunate that a calm, conservative attitude has so often been departed from by enthusiastic proponents of accepted scientific theories. Haeckel, for instance, the anthropologist, paleontologist, and zoologist, used to teach — and it was accepted because the great Haeckel taught it — that in the respective embryos of man and of ape the differences between them could not be distinguished until the fourth or fifth month of pregnancy — a teaching which was not true. As Professor Wood Jones says, it is a teaching whose results we now must take time and energy to undo. The differences between the embryo of the ape and the embryo of man are noticeable far earlier than the fourth month of intrauterine life.

A gorilla fetus a short time preceding birth is more humanoid in appearance than its parents, more humanlike than it would become. The braincase is relatively larger, the forehead taller and nobler than the receding forehead of the adult gorilla. Its foot likewise approximates much more closely the normal human foot, and whereas these are but superficial resemblances, yet they can be employed in argument; and the neo-Darwinists are the last to object to it, because their own theories are so widely based upon resemblances between man and ape. As growth of an infant ape proceeds the forehead recedes, the mouth becomes still more bestial, the foot becomes more typically the hand-foot of the anthropoid stock; and in many other respects, for instance the protruding jaw, the typical ape-appearance is acquired.

What is the explanation of this larger departure from the humanoid towards the more anthropoid? And also towards the type, now extinct, which furnished the other half-parent of the ape strain? The theosophist says that the more human appearance of the early ape embryo is a reversion to its former type of a far past geologic time, towards the human half-parent of the progenitors of the present ape stock. Because the anthropoid strain — indwelling in the germ plasm which brings the ape to grow into its adulthood — as that cellular strain or potency seeks to express itself, it follows the only path open to it, its own path. It climbs its own ancestral or genealogical tree.

Nature always follows grooves; it always takes the path of least resistance, the path of the pioneers who have gone before. All

forces in universal nature do this: electricity is an example in point. Nowhere in nature do you find a natural force or an evolving entity following the path of greatest resistance. A biological habit once established will prevail until it is succeeded by the growth and dominance of a succeeding habit; and it is the essential work of evolution to produce ever nobler courses, ever nobler habits, than those which had preceded the newer. Consequently, the pathway which has once been opened is automatically taken by all evolving entities that are included in any particular group or stock or race or strain coming along behind.

It is the teaching of theosophy that the anthropoid or ape stock in a far remote past, in the Miocene of the Tertiary period, sprang from the human stock on one side and from a quasi-animal simian — ancestry on the other. This explains why the ape so closely resembles man in some things and shows such immense dissimilarities in other things — in the nobler characters and features which man has. (1)

Similar was the case with regard to the lower simian stocks, the monkeys; but that event happened at a period still more remote in geologic time, to wit, in the Mesozoic period, during the period of existence of what we call the "mindless" human races. In those far back days, these particular crossings were almost invariably fertile, for the simple reason that matter was then far more plastic than it now is; matter had not yet set into the grooves that it now follows. Thus the apes and the monkeys have traces of human blood in their veins; the monkeys a single dose, so to say, of the nobler strain, and the apes a double dose of the same. But *no man* has one drop of either simian or anthropoid blood in his veins.

I weigh on this point with emphasis because the other idea, that

of the ape ancestry of man, is so difficult to eradicate. People are averse to changing their minds in relation to what they think are proved facts. Old and worn-out ideas, ideas which are actually behind the knowledge, scientific and other, of the day, still remain in our minds and plague us.

Darwin's *The Descent of Man* gave further voice to the opinion that the origin of man is to be found in an anthropoid ape living in a remote geological period. Despite the vastly wider light thrown on the problem of evolution by modern research, this outworn theory is still taught in many of our public schools as being a resumé of the facts of nature, as far as man's evolutionary past is concerned. Let me quote here a few passages from *The Descent of Man* in which this theory is expressly stated. In chapter six, Darwin says:

Now man unquestionably belongs in his dentition, in the structure of his nostrils, and some other respects, to the Catarrhine or Old World division [of monkeys].... There can, consequently, hardly be a doubt that man is an off-shoot from the Old World simian stem. — p. 153

If the anthropomorphous apes be admitted to form a natural sub-group, then as man agrees with them, not only in all those characters which he possesses in common with the whole Catarrhine group, but in other peculiar characters, such as the absence of a tail and of callosities, and in general appearance, we may infer that some ancient member of the anthropomorphous sub-group gave birth to man. — p. 154

But we must not fall into the error of supposing that the early progenitor of the whole Simian stock, including man, was identical with, or even closely resembled, any existing ape or monkey. — p. 155 We are far from knowing how long ago it was when man first diverged from the Catarrhine stock; but it may have occurred at an epoch as remote as the Eocene period. — p. 156

And finally,

The Simiadæ [in Darwin's classification, all anthropoid primates] then branched off into two great stems, the New World and Old World monkeys; and from the latter, at a remote period, Man, the wonder and glory of the Universe, proceeded. — p. 165

The rival and more enlightened theory — that the ancestor of man sprang from the mammalian line far earlier than the anthropoid apes and monkeys — this theory in differing forms is in greater or less degree upheld by a number of eminent zoologists before and after Darwin, each of course after his own manner. I may mention the Frenchman Armand de Quatrefages, several German biologists, and the anatomist Wood Jones, also Hermann Klaatsch of Heidelberg University, and apparently Henry Fairfield Osborn of Columbia University. [See Ch. 7 note 2 and Appendix 2 for more recent and similar findings.]

According to Professor Klaatsch, "Man and his ancestors were never quadrupeds as the dog or the elephant or the horse." This respected anthropologist further stated that monkeys and apes are best regarded as "degenerated branches of the pro-human stock" (quoted in Wood Jones, pp. 24, 39). Such, as far as it goes, is precisely the teaching of theosophy, which, however, claims that this is but half the truth, adding that the primitive human stock was but the half-parent of the original ancestors of the modern anthropoids. This does not mean, however, that monkeys and apes are or were degraded men, but that they were in part human, and in part animal — derived from an early human stock on one side, and from an early animal stock on the other.

If man belongs to the same subphylum or stock as the apes and monkeys, he is either their descendant or their ascendant. As mentioned in the previous chapter, if man sprang from the apes, how is it that he has lost the specific characters or features which mark the anthropoid and lower simian stocks, and has wandered back in so many respects to an identical basal mammalian simplicity of structure? This violates the "law of irreversibility" which sets forth that no entity, losing an organ or a character or a feature, regains that identical organ. Louis Dollo, a Belgian paleontologist, has done some remarkable work in proof and in demonstration of this law.

Darwinism became the favorite scientific evolutionary theory of the time. Nowadays it is more or less moribund, although there are still a number of "won't-give-ins" who cling to old Darwinian ideas; yet they belong rather to what is called neo-Darwinism, which is Darwinism more or less modified by other natural facts which have been discovered and investigated since 1859 when Darwin published his *Origin of Species*.

No one can rightly say that all that Darwin taught is wrong, or that all that the neo-Darwinians teach is erroneous. That position would be absurd. On the contrary; there is some truth in the explanation of the facts of nature which Charles Darwin and his followers investigated. Nor can one say that the theories of Lamarck, Darwin's predecessor, are altogether wrong. There is some truth in them both, particularly in Lamarck's idea or intuition of the the inward urge of the evolving organism striving in its environment.

What theosophy claims, however, and what we have been teaching for many decades, is that the evolution of man and of the beings below him, and of the universe itself, cannot be logically and completely explained as depending solely upon physical and chemical agencies. These are not the only factors working in the evolution of beings. The main divergence between the theosophical view of evolution and current theories is that the latter refuse to admit a psycho-vital engine or motor behind and within the running physical machine — or rather engineers, call them spiritual entities if you like.

We claim that there are designers in the world — designers of many degrees, vast hierarchies of them, infilling and, in fact, forming the invisible part of the cosmos itself. They are the origin of the life forces working through the life-atoms of all evolving entities; and it is in these designers that we live, and move, and have our being, even as the cells and atoms of a man's body those small and elemental lives — live and move and have their being in him; further, that the working of these designers is de facto neither fortuitous nor haphazard, but is essentially the result of the purposive and teleological striving of these designers towards a larger and more perfect expression of their indwelling and native powers.

This again is one of the largest differences between the theosophical and the accepted scientific view of evolutionary development. We assert that natural forces, the indwelling powers in these designers, work towards a definite or purposive end; while, on the other hand, the popular scientific theories avoid or disregard this vitally important question and, usually tacitly, postulate fortuity, chance, or the random origination of species and biological variations.

Charles Darwin himself, in the opening words of the fifth chapter of his *Origin of Species*, explicitly declares that he wrongly uses the word "chance" in connection with the origination of species, saying that it is "a wholly incorrect expression," but that this word "chance" nevertheless suffices to set forth our ignorance of the actual cause of specific variations. Strangely enough, he then immediately proceeds to set forth the cause of evolution natural selection acting on random variations of which he has just confessed he was completely ignorant — resulting in the survival of the fittest.

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FOOTNOTE:

1. Such is the case with the anthropoid apes. The touch of humanity from their early human half-parent still works within them, but is overshadowed in power, in influence, and therefore in biological consequences, by the stronger animal evolutionary strain. Nevertheless, because our earth and its entire groups of inhabitants of all kingdoms are even now beginning what in theosophy is called the ascending arc of evolutionary development, the human influence in the ape stock now surviving will become still stronger in power as future ages roll by into the ocean of the past. This means that in distant future time the apes will slowly become more humanlike than now they are. (return to text)

Chapter 7

Man and Anthropoid — 2

In the *Scientific American* some years ago there appeared an interesting article called "Dawn-Man or Ape?" by William King Gregory, then professor of vertebrate paleontology at Columbia University. A neo-Darwinian, he says:

In other words, even if we did not have the chimpanzee we should have to infer its existence as a sort of half-way station in the long road of ascent from the primitive Eocene primates. Darwin's theory that man is a derivative from the anthropoid ape stock, although not from any existing type of ape, accounts for hundreds of such peculiar resemblances between man and ape. And what other scientific hypothesis can do this? — September 1927, p. 232

We have here the same spirit of enthusiasm that was manifest in Huxley in England and Haeckel in Germany — inventors of imaginary steps in their evolutionary ladder of life. "Even if we did not have the chimpanzee we should have to infer its existence."

As regards the "hundreds of such peculiar resemblances between man and ape," such resemblances most unquestionably exist, though hundreds seems to be a large number. This is but another example of the Darwinian method, just as Huxley and Haeckel followed it: they emphasized the manifold points of resemblance between man and his younger brothers — or rather his degenerate half-children, the apes and the monkeys — but they omitted to point out the dissimilarities, the wide divergences, that exist in even greater number between the human stock and the anthropoid and lower simian stocks. They recognized them in some cases, but denigrated their value, underestimated their importance, or slurred them over as things which are so obvious they need scarcely to be mentioned with more than a passing allusion to their existence. Suggesting the unimportance of differing features or characters between the two stocks has a direct psychological influence: people take such statements at their face value, without further examination, as established facts of nature, which most emphatically they are not.

In an address to the British Association for the Advancement of Science, Sir Arthur Keith, held by his colleagues to be "the most brilliant anthropologist of the day," said:

The evidence of man's evolution from an ape-like being, obtained from a study of fossil remains, is definite and irrefutable, but the process has been infinitely more complex than was suspected in Darwin's time. Our older and discarded conception of man's transformation was depicted in that well-known diagram which showed a single file of skeletons, the gibbon at one end and man at the other. — "The Evidence for Darwin is Summed Up," *The New York Times*, September 4, 1927, sec. 8, pp. 1, 10

We all know that picture: it is still in many of our museums, and is still taught in many of our biological books. These also show intermediate stages of bestial or subhuman creatures, which are announced as having actually been the intermediate steps or stages of man's evolution from the ape. Yet in no case are these creatures announced as being mere offsprings of the scientific imagination, reconstructed perhaps from a portion of a fossil skull, or perhaps from a portion of a jaw or from a tooth, or one or two or three of these together. From these scanty fossil remains have been built up the various pictures of more or less manlike creatures, growing gradually more beastly and apelike as they descend the scale towards the gorilla, chimpanzee, and

gibbon.

I may add here that the mistakes and faults of these imaginary reproductions are rarely or never obvious to the trusting student; and yet a striking instance of such false reconstructions may be shown with regard to Neanderthal man, who has always been pictured as having a flat, squat nose, somewhat like those of the Old World Catarrhine apes. Yet we now know that this is not true: the fossil skeleton discovered in 1908 at La Chapelle-aux-Saints, France, had prominent nose bones, the skeleton belonging by unanimous consent to a Neanderthal man.

Sir Arthur continues:

In our original simplicity we expected, as we traced man backward in time, that we should encounter a graded series of fossil forms — a series which would carry him in a straight line toward an anthropoid ancestor.

We should never have made this initial mistake if we had remembered that the guide to the world of the past is the world of the present. In our time man is represented not by one but by many and diverse races . . .

Our searches have shown that in remote times the world was peopled, sparsely it is true, with races showing even a greater diversity than those of today . . . We have to thread our way, not along the links of a chain, but through the meshes of a complicated network.

A few years ago it was a scientific heresy to suppose that man had evolved in any other manner than in that outlined in scientific books, and supposedly along the line of ascent set forth in reconstructive work on skeleton and muscle in our museums. Such evolution, we were taught as an axiom, as a scientific dogma, had proceeded along that certain and particular pathway from the protozoan to man which Professor Keith now very aptly calls a "discarded conception."

We have made another mistake. Seeing that in our search for man's ancestry we expected to reach an age when the beings we should have to deal with would be simian rather than human, we ought to have marked the conditions which prevail among living anthropoid apes. We ought to have been prepared to find, as we approached a distant point in the geological horizon, that the forms encountered would be as widely different as are the gorilla, chimpanzee and orang, and confined, as these great anthropoids now are, to limited parts of the earth's surface.

That is what we are now realizing: As we go backward in time we discover that mankind becomes broken up, not into separate races as in the world of today, but into numerous and separate species. When we go into a still more remote past they become so unlike that we have to regard them not as belonging to separate species but different genera. It is among this welter of extinct fossil forms which strew the ancient world that we have to trace the zigzag line of man's descent. Do you wonder we sometimes falter and follow false clues? (1)

In tracing back from the present the history of the human stocks, it is true that they appear more distinctive and differentiated up *to a certain period*, which in theosophy we call the fourth rootrace. At about that time the world was teeming with a large number of evolutionary strains, because material evolution had reached the acme of its power. The various types of mankind were more widely separated from each other.

But in times *preceding* this great fourth race, the farther back we go in geologic time, the more closely do the stocks begin to
approximate towards each other, so far as type is concerned. In other words, they become more and more generalized the nearer we approach their origin at the common point of departure in ages far preceding that of the fourth root-race. It is in those more generalized and far earlier types that we find a greater kinship, biologically speaking, among the various stocks.

Professor Keith ends his address:

Was Darwin right when he said that man, under the action of biological forces which can be observed and measured, has been raised from a place among anthropoid apes to that which he now occupies? The answer is yes! and in returning this verdict I speak but as foreman of the jury a jury which has been empaneled from men who have devoted a lifetime to weighing the evidence.

That declaration sounds extremely convincing. But let us point out that other juries, empaneled from other men who likewise have spent a lifetime in the study of the evidence, tell us a different tale; and the ranks of these latter are growing daily greater.(2)

The paleontologist Henry Fairfield Osborn, in an address given before the American Philosophical Society in Philadelphia on April 29, 1927,(3) said:

I regard the ape-human theory as totally false and misleading. It should be banished from our speculations and from our literature not on sentimental grounds but on purely scientific grounds and we should now resolutely set our faces toward the discovery of our actual prohuman ancestors....

The prologue and the opening acts of the human drama occurred way back 16,000,000 years ago (4) . . . At this

period, or before, the family of man sprang from a stock neither human nor ape-like . . .

In my opinion, the most likely part of the world in which to discover these "Dawn Men," as we may now call them, is the high plateau region of Asia embraced within the great prominences of Chinese Turkestan, of Tibet and of Mongolia.

Could the contradiction between these two eminent biologists be more absolute? While Professor Osborn speaks of the ancestors of man as having been neither human nor ape, he merely asserts that these two stocks were derived from an earlier primate common ancestor. But the theosophical teachings tell us, and the facts of anthropology and biology seem to prove the case, that that common ancestor was *man himself* — not man as he now is, of course, but man as he then was; less evolved than present mankind, but yet no animal as we understand that word, and no ape in any sense, but original, primitive man himself.

You may call him prehuman, if you limit the term "human" to man as he now is. But the strain from which humans come, from which men are derived, was human to its source on this earth, and its origin was in godlike creatures, who came to our earth in the earliest days of the planet's life; and, as it were, casting the seeds of their lives into the developing germs, originated the human stock. These developing germs or life-atoms were those with which these godlike creatures were spiritually, psychically, and therefore magnetically connected in a former period of evolution, in times so vastly far-distant that we call it another *manvantara* or cycle of manifested life.

To conclude with Dr. Osborn:

The term "ape-man" has been forced into our language

along a number of lines, and even the term "anthropoid" has come to lose its significance. "Ape-man" gained prestige through early explorers and travelers who represented the anthropoid apes as walking on their hind feet. We have since discovered that no anthropoid ape walks upright; the gibbon balances himself awkwardly when he comes down from the trees, but all the other apes are practically quadrupedal in motion, except possibly in defense, when they rear as a horse would rear....

Of all incomprehensible things in the universe man stands in the front rank, and of all incomprehensible things in man the supreme difficulty centers in the human brain, intelligence, memory, aspirations, and powers of discovery, research and the conquest of obstacles.

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FOOTNOTES:

1. Please understand that different "races of men" means men much more like each other than does different "species of men," and that different "species of men" are more like each other than are different "genera of men." (return to text)

2. [See William L. Straus, Jr., "The Riddle of Man's Ancestry," *The Quartely Review of Biology*, University of Chicago Press, 24:3, September 1949, pp. 200-23, for an excellent history and analysis of theories of evolutionary descent. It includes sections on Anthropoid and Non-anthropoid Theories of Human Origin, citing work by Wood Jones, Gregory, Keith, Osborn, and others. Straus (1900-81) taught at Johns Hopkins University, specializing in anatomical studies of apes and monkeys, and the evolution of erect bipedal posture. He was also one of the main investigators who demonstrated that Neanderthal man was relatively modern (see Appendix 2 note 10).] (return to text)

3. Excerpts from "Recent Discoveries relating to the Origin and Antiquity of Man," read by Vice-president Osborn on the occasion of the bicentenary anniversary (April 27-30) of the American Philosophical Society. See *Proceedings*, vol. 66, pp. 373-89. (return to text)

4. It is remarkable that Professor Osborn gives almost the exact length of time — sixteen million years ago — required to reach primitive man, that theosophy teaches as having been the period of the first appearance of truly physical man, who had been preceded by semi-astral man, and before that by astral man. The first truly physical men existed eighteen million years ago.

Professor Osborn further places the age of man, *in his present stage*, at one million years. It is also the theosophical teaching that man, as he now is in his *present evolutionary cycle*, has been so for one million years more or less. It should be noted, however, this "one million years" applies to our present humanity or fifth root-race in its present evolutionary stage *only since the time when it became a race sui generis*, i.e., a race with its own typical racial characteristics, and more or less separated from the previous or fourth root-race. Actually, the origins of our present humanity or fifth root-race extended several million years farther back than this "one million years" mentioned.

Professor Keith says that it is only about one million years since man diverged from the ape stock, or perhaps, rather, from that common ancestor of man and the ape about which so much is said and so exceedingly little is known; and that this separation of the two stocks occurred, as alleged, in the beginning of the Miocene epoch of the Tertiary period of geology. Professor Keith is very modest indeed in his biological computations of geologic time. Only one million years, according to Keith, since the beginning of the Miocene. Other authorities, equally great, differ widely from Keith's time period. For instance in *Organic Evolution* by Richard Swan Lull (1921), various dates are given as estimates of the duration of these various geologic periods; and the Tertiary, to which belongs the Miocene epoch, is given by W. D. Matthew as of nine million years in duration — while Joseph Barrell is not satisfied with less than sixty million! (return to text)

Chapter 8

Specialization, Variation, and Speciation

No one has ever succeeded in bridging the gaps separating the great groups or phyla of animal stocks, and therefore no one has been able to find that alleged continuous stairway up which man is supposed to have climbed to his present evolutionary status. Doubtless there have been in the past intermediate beings, or rather intermediate stages of life between these great groups; but the geologic record, so imperfect, has not yet revealed them. Should they ever be discovered, they would no doubt be acclaimed by transformists as the long sought for and always missing links. It is probable that these particular scientists would ignore the more likely possibility that they are simply specimens of specialization of one or more of the great stocks below man; for we already know that all these great stocks have exhibited examples of evolutionary specializations.

Thus these findings would in no sense be de facto missing links, but offshoots from one or more of these great stocks, which offshoots have followed certain minor lines of progressive variation. In fact, each one of the great phyla or groups or stocks, as we now see each one of such today, is but the point of evolutionary variation which they have reached at the present time, and by no means precluding still greater specializations in variability in the future. To put the matter in a nutshell, each of these great groups or phyla is simply a large evolutionary development, a specialization, from the elementary zoologic roots.

Evolution and specialization are, in one sense, almost synonymous. If evolution means the unwrapping of that which is dormant or latent or sleeping, so does specialization mean the same thing. One great group may take on the specialized forms or variations which are typical or type forms of another great group, frequently lower. A mammal, for instance, may take on variations of a bird type or of a fish type, and yet remain a mammal in both cases. Consider the whale, which for some unknown reason went down to the sea. The shark is a fish, and the *ichthyosaurus* of the Mesozoic era was a reptile. Fish, reptile, and mammal: three widely different stocks which have approached each other in general shape and habit through the influence of environment. Though radically different anatomically and derivatively, they yet have the superficial likenesses.

The bat is likewise a mammal, and yet it has all the appearance and many of the habits of a bird; but the bat is almost helpless unless it is in flight. Its movements on the ground or on the floor are extremely awkward. What induced the bat to leave the ground and take to the air? What was the cause of this wide divergence of form and habit from the ancestral mammalian stem?

Please remember in this connection that "evolved" or "specialized" does not necessarily mean higher or superior, if we use the technical term of scientific books. It merely means the bringing out of that which is seeking expression, a larger degree of "specialization." Such multitudes of forms, diverging ever more from the primitive or root stock, are always instances of typespecializations. Specialization is in all cases a mark of a greater distance from the origin of any such stock.

Specialization is always a side issue. It is the following of a path which does not lead in the main evolutionary direction. It indicates at least a temporary arresting of *inner* evolutionary development, a running off into unessential bypaths unessential, that is, from the standpoint of spiritual evolution. Thus, in a sense, all developments of the animal stocks away from the primitive human strain may be said to be specializations, as they diverged more and more widely from the main trunk, each following its own genealogical branching. Their opportunity, indeed their capacity, to forge ahead along psychological lines was limited, though there were infinite possibilities in the way of physiological variations for them to pursue.

Meanwhile the human race, most primitive of all, retained its comparative simplicity of bodily structure and function, because it was not solely concerned with mere experimentation and adaptation along physical lines. Once it had built for itself a suitable vehicle, it abandoned that line of evolution *as a distinct line of evolution for its own sake,* in order to bring into outer expression the far more important *inner* psychological, intellectual, and indeed spiritual factors locked within it.

This same principle works out in the sphere of human life itself. Wherever you see a too great specialization in any branch of science, for instance, you may know that there forward progress is likely to be in abeyance; because running off exclusively into bypaths of specialized study cuts one off from the main course of human thinking, that broad stream which has been fed through the ages by all profound thinkers adding their contribution to the forward evolution of human thought.

Remember that evolution proceeds in all cases by means of two agencies: the inner drive or urge in the evolving entity, acting upon surrounding circumstances or environment, which react against the creature expressing such inner drive or urge. The resultant of these two forces or conditions is the animal, or the human being, or any other entity, at any moment of its developmental course. Thus we mean by evolution the unfolding or rolling out of potentialities or potencies or latent capacities inwrapt in the creature itself. And when the environment permits an outflowing or unwrapping of these latent powers, they immediately flow forth into manifestation, or assert themselves, the resultant in the case of the animal kingdom being a change in some one or more respects in the physical vehicle or body; and in the case of the human kingdom in its present stage, a fuller expression of the inner psychological entity.

Now I have stated elsewhere that there was no uniserial or endon evolution of the human stock through and across the great classes of animate entities beneath the human; and that it is the various gaps or lacunae between the stocks that have formed the main stumbling blocks for the transformists in their attempt to prove their hypotheses. Every attempt to bridge these gaps by an appeal to nature's record has broken down of necessity. But fixed ideas die hard, and there has been much work in an endeavor to offer some further explanation by which the early transformist theories of evolution could be proved.

Consequently there has arisen a more modern evolutionary school, which we may call the "Saltatory" school, based on the idea that evolution frequently pursues a "leaping" or jumping course. Sudden and large variations do occur, but no satisfactory explanation has been given as to why these leaps or saltatory variations take place. Prominent among the proponents of this school are Hugo de Vries and William Bateson. They have found that certain plants and animals show in their biological history wide steps from one stage or variation to another, and the resultant entity is so specifically different, that they have called such wide steps mutations.

In theosophy, these are caused by the fact that the evolving entity had accumulated — if we may use such an imperfect expression — a "habit" or set of habits which remain latent for periods more or less indefinite. Such habits we may call recessive or sleeping or latent; but when the environmental circumstances are appropriate for their manifestation, out they come, and to all appearances a new species has started its evolutionary course.

Obviously then, the law of evolution by slow and graduating stages, one into the other, has not been in any sense violated, for these habits or groups of habits or variations were accumulated and built into the biological architecture and history of the cell or cellular organism which produced them. Environment provides the path for their manifestation when the barriers hindering their appearance vanish, or are broken down, or for some other reason no longer oppose the outflowing of the inner forces or force hitherto asleep or latent or recessive.

The explanation of this fact of wide and sudden variations lies in the nature of the cellular structure in the body of each such evolving entity. I do not see how evolution can ever be understood if we limit our study of it solely to the variable and changing body; because it should be obvious to any reflective mind that the body can express only that which an inner and spiritual power has ordained in its endeavors at self-expression through the body, when an appropriate environment allows it to show itself.

We have already pointed out that the inner evolution of man, that is to say, the evolution of the inner powers of his being, is by far more important and interesting, because causal, than is the evolution or change in specialization of his physical frame. But we are limiting our present thesis more or less to the evolution of the vehicle or body through which man, or through which the entities below him, respectively evolve and work or express each its own inner drive.

The Austrian monk Gregor Mendel, in the garden of his monastery, experimented with the common garden pea

extending over a number of years. He collated the results of his studies and found that heredity expresses itself along mathematical lines, in quantitative relations. He printed these studies in 1865, and they were promptly forgotten, if indeed they ever received any attention at the time. The world then was ringing with quarrels over Darwinism, natural selection, and survival of the fittest.

But in 1900, sixteen years after the death of Mendel, his studies of genetics were rediscovered more or less independently by three great botanists, Hugo de Vries, E. Correns, and G. Tschermak. They found that Mendel's work aided them greatly in explaining their own mutationist hypothesis, that is, the hypothesis of saltatory evolution or evolution by leaps or jumps. Mendel theorized that there exist in the reproductive or germ plasm of plants and of animals certain powers — "dominant" and "recessive" — seeking expression, and that they manifest in mathematical or quantitative relationships.

What is it that produces these mathematical relationships? Environment of course has something to do with it, because environment provides the stimulus, as it were, enabling the inner urge or potency to express itself; in other words, environment is the field within which and upon which these natural forces, inherent in the stock, work. But we must look into the inner nature of the individual itself under investigation if we wish to trace these secrets of nature to their origin and to explain them. The solution of this problem lies in the cell, that is to say, in the inherent, or indwelling, or innate, or inclosed powers of the cell itself. (1)

All matter — both the living and the so-called inanimate — is ultimately built up from atoms, each one of which possesses vast and incomputable capacities for change, which is evolution towards growth or retrogression, as the case may be. But it is always evolution, that is, the bringing out of that which is lying in it seeking expression. In many instances this evolving, this bringing out, of the inner tendency, potency, or capacity, is inhibited by various circumstances; and in such event, the atom or the cell falls under what in theosophy is called the law of retardation, and must bide its time until its own cycle for growth comes. But if its cycle be one under the action of the law of acceleration, it begins to grow in progressive development, always bringing out that which is within itself, lying latent within it, as potency or tendency.

Evolution therefore actually is self-expression. It does not proceed in a haphazard manner, but according to the inner urge or drive of the more or less conscious invisible entity or soul, which is the factor seeking to manifest itself through its vehicle or vehicles. It is in the very small that we should seek for the unriddling of the riddle of evolution — for solving of the problem of what causes expansive or forward or progressive growth.

Man being a child of the universe, being a part of that universe itself, he has in him everything — every force, every potency, every capacity — that the macrocosm or great universe has. He in his turn is a macrocosm to the cells which compose his body, for they are a part of him and therefore have everything in them which he has in him, albeit latent or dormant, and not yet kinetic.

The powers are there, and when the environment be fit and appropriate, when the barriers have been worn down through evolution, or rather cleared away by the working of the inner drive, then these potencies and capacities manifest this inner urge for self-expression; and behold! something new is produced — a new variety, a new species, or it may indeed be destined to develop a new stock. It all depends upon two factors in the biological equation: an inner urge expressing the inherent potency or capacity with a free path and uninhibited by barriers; and, second, an environment fit and appropriate as a field for their expression.

This is what I mean when saying that man is the repertory of all the animate entities on earth. Moreover, he has everything in him that he himself can ever in future be; and these potencies await the time and the place for their coming forth into manifestation. The process is evolution or self-expression; and when saying that man gave birth to all the animate creatures below him, I mean that in the beginning the roots or seeds of all the animate creatures below him existed in him as latent or dormant or sleeping things.

Please remember that we now are speaking of man's *physical* body. We do not mean that these animate creatures below him formerly existed in his soul or in his spiritual nature; but that they were sleeping elemental entities in his nature and derived from him as their parent. They took the manifold and many forms and shapes they had and have, because these most fitly manifest the particular kind of energy expressing itself in each and every case.

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FOOTNOTE:

1. These mathematical relationships are more or less automatic as concerns the kingdoms of nature below man. But beginning with man and appertaining to the kingdoms above him, these relationships are then expanding into fields of evolving consciousness, or rather consciousnesses, and this brings about in the long courses of evolutionary history constant increments of individuality as appertaining to units or individuals. Individuality thus always tends to modify the details of a general law; but this does not mean that the general law is not operative. (return to text)

Chapter 9

The Moral Issues Involved

The question of evolution has become a burning one, because men and women have come to realize that there is a moral question involved. Let me turn again to Dr. Osborn, writing as regards the causes of evolution:

The net result of observation is not favourable to the essentially Darwinian view that the adaptive arises out of the fortuitous by selection, but is rather favourable to the hypothesis of the existence of some guite unknown intrinsic law of life which we are at present totally unable to comprehend or even conceive. We have shown that the direct observation of the origin of new characters in palaeontology brings them within that domain of natural law and order to which the evolution of the physical universe conforms. The nature of this law, which, upon the whole, appears to be purposive or teleological in its operations, is altogether a mystery which may or may not be illumined by future research. In other words, the origin, or first appearance of new characters, which is the essence of evolution, is an orderly process so far as the vertebrate and invertebrate palaeontologist observes it. — "Palæontology," Encyclopaedia Britannica, XIth ed., vol. XX, p. 591

What a change from the scientific views of the last century. I would like to point out in this remarkable paragraph the emphasis laid upon the purposive or teleological principle implicated. Professor G. W. Patrick of the University of Iowa, writing on the broader views of twentieth-century ideas of evolution, adds further: Another feature of twentieth-century evolution is the lesser emphasis put upon the notion of nature as a battlefield as a scene of sanguinary and ruthless struggle in which the fittest survive. This was one of the unhappy ideas associated with the name of Darwin, even until recently made the excuse and vindication of every evil thing in human society. It is unfortunate that a part of this precious twentieth century has got to be spent in "unthinking our convenient Darwinism." Professor Patten, writing as a biologist, says that the altruism and cooperation which we are coming to recognize as the absolutely indispensable condition of further social evolution are basal and primary factors in the grand strategy of evolution in nature itself.

In fact, there seem to be indications that the whole evolutionary nomenclature of the nineteenth century was unfortunate. Perhaps we need a new set of terms all around to describe that great world movement which for seventy-five years has gone by the name of *evolution*. Many biologists are beginning to question the presupposition of the nineteenth century that the concepts of the mechanical sciences have any special prerogative in the interpretation of life and mind and society.

... J. Arthur Thomson believes that the formulae of physics and chemistry are no longer adequate for the description of behavior or of development or of evolution. It is generally felt that Herbert Spencer "put something over" on the scientific world when he exalted a certain trio of concepts, namely, matter, motion and force, whose redistribution was to explain the whole world.

Biologists of the present time are largely engaged in patient and persistent investigation in the field of genetics, wisely refraining from speculation as to the causes and meaning of evolution. But it is difficult to refrain from all speculation, and when biologists do enter the field of philosophy and speak of theories of evolution, it is interesting to notice the new terms which they are using. We hear much of creative evolution, not always in the strict Bergsonian sense. We hear of "emergent evolution." We hear evolution described as "a struggle for freedom," or as a process in "self-expression." We hear of the material fabric of nature as being "alert" rather than "inert." We hear of "the grand strategy of evolution." We even hear of evolution as a process of achievement, in which life and mind and moral conduct and social organization and science and art are values which have been won. — "The Convergence of Evolution and Fundamentalism," The Scientific Monthly, July 1926, pp. 12-13

Professor Louis Trenchard More of the University of Cincinnati, writing on "Man's Nature," has this to say about the inadequacy of the mechanistic theory of transformism, miscalled evolution, and of the misuse of that theory by most of the popularizers of scientific hypotheses:

For many decades the world has been governed by the philosophy of progress and evolution which was established by the work of the biologists of the nineteenth century. To them we owe not only the solid foundations of the science of biology, but also the dogmatic assumption of the Darwinian theory of natural selection and a philosophy of monistic naturalism.

In the meanwhile later biologists have proved, by their own experimental work, that the Darwinian theory is entirely inadequate to explain the appearance of new species, and they have found no other satisfactory cause of variations. They are thus reduced to the position of asking us to accept a general theory of evolution on faith.

While these results are known by all well-informed biologists, they have permitted, without protest, the popularisers of science, the sociologists, and the clergy to present the subject as one founded on positive evidence. And, still worse, students in schools and colleges are taught biology in such a manner that they are convinced that the special theories of evolution are established as indisputable facts, and that the philosophy of naturalism is the logical conclusion of those facts.

There is little wonder that the world at large confuses Darwinism with evolution, and atheism with biology and scientific theory in general. Popular accounts of "missing links" are constantly appearing, and they are not contradicted authoritatively by biologists. And yet they know that to look for a "missing link" means that we have not only the two ends of a chain, but also most of the intermediate parts. The truth is, we have one end of a possible chain, ourselves, and we have certain fragments of fossil remains which have some of our characteristics. But biologists do not know what, if any, animal ancestor forms the other end of the chain, or what links connect us with the past....

And since [the biologist] knows neither the cause nor the method of variations, he is unable to predict the characteristics of even the next generation. — *The Hibbert Journal*, April 1927, pp. 509-10, 522

Is not this a most remarkable plea of ignorance, and yet how honest and forthright it is. Evolution is indeed a fact of being.

Growth, learning, advancement, progress, is the general law of the universe. That is one thing which any sane man today admits. But the theories, the ideas, the dogmatic assumptions, the teachings, the hypotheses, the fads, of any particular popularizer of science, be he small or great, are another thing; and we, as thinking men and women, have perfect right, and are upheld by leading biologists themselves, in accepting such ideas or in refusing to accept them.

It is the so-called popularizers of science, many of them nevertheless very earnest and sincere men, with whom theosophists have bones to pick; at any rate, these are the ones with whom we differ, and positively in some cases, because instead of confining themselves to the noble principles of natural research, they are too often given to dogmatic assertions concerning facts which have not yet been fully understood or explained.

Let me here repeat that theosophists do not admit the existence of any so-called inorganic or lifeless matter; everything is living because everything is a focus of force and therefore of life. Life is the living fountain, and energies and forces are the streams pouring forth from that fountain.

At a joint meeting of biology and chemistry teachers, physics and botany clubs of New York City, Dr. John M. Coulter spoke on the nature and foundation of evolution. His opening remarks follow:

The meaning of evolution is probably more misunderstood than any doctrine of science. The reason is that it has been discussed very freely by those who are not informed, and in this way much misinformation has been propagated.

The general meaning of organic evolution is that the plant and animal kingdoms have developed in a continuous, orderly way, under the guidance of natural laws, just as the solar system has evolved in obedience to natural laws. (1)

We agree; only these "natural laws" are merely the manifesting activities of indwelling intelligences, "the gods," if we may use an unfashionable word. These laws are the expression of the activities of their vegetative or vehicular side, as it were, while the kinetic or active side which they possess, is that which manifests on their own higher planes, and is the expression of their high spiritual and sublimely intellectual activities. These latter activities are the root of the harmony, consistency, correlating nature which the universe manifests; while, on the other hand, it is the corporeal or vegetative side of their nature, so to say, which manifests the energies and forces which play through the physical universe that we know.

Dr. Coulter then points out that Darwinism is quite a different thing from evolution per se; and further, that Darwinism is only one of the attempted explanations of the evolutionary biological phenomena of life. Evolution, he says, is an undoubted fact; but it is quite a different thing, he adds, whether any proposed transformist or evolutionary theory is adequate as an explanation of the natural phenomena of growth and progress. Not a single hypothesis so far advanced, he declares, fits or covers all the facts known.

All this is exactly what we point out. But what I wish to lay emphasis on here is the unfortunate moral effect which these transformist teachings have had upon the world. When men believe that they have a common spiritual ancestry, and spring from a common vital-spiritual root, and are journeying on together through vastly long periods of evolutionary development; when they realize that the blood which beats in the veins of each man is similar to, or perhaps almost identical with, the blood which beats in the veins of all men, no matter how great be the differences between the various races; then men have a spiritual conception of life, which functions as a strong anchor by which they can hold the ship of life in times of stress or danger.

Inwardly knowing this, they are not swept away from their moral moorings by false biological teachings eventuating in the belief that life is a desperate struggle for superiority, in which each man must succeed through selfishness — in the idea that man, being nothing but a transformed animal without a directing soul or an overshadowing spirit, is a creature of haphazard chance, without hope of a spiritual future, and ungoverned by any innately moral sanctions; that the only restraining forces are those of social conventions or an intangible kind of moral code arising out of opportunism and the fear of being caught if his innate aberrant selfishness wanders too far from the straight road. Or again, in the idea that if indeed man has a soul, that soul is only some kind of effluvium arising out of chemico-physiological action in and on the brain. These nightmares of the imagination are largely responsible for the terrible struggle for material supremacy and power which the world is passing through. In contrast, Professor Wood Jones concludes his study, The Problem of Man's Ancestry, thus:

Man is no new begot child of the ape, born of a chance variation, bred of a bloody struggle for existence upon pure brutish lines. Such an idea must be dismissed by humanity, and such an idea must cease to exert any influence upon conduct. We did not reach our present level by these means; certainly we shall never attain a higher one by intensifying them. Were man to regard himself as being an extremely ancient type, distinguished now, and differentiated in the past, purely by the qualities of his mind, and were he to regard existing Primates as misguided and degenerated failures of his ancient stock, I think it would be something gained for the ethical outlook of humanity — and it would be a belief consistent with present knowledge. — p. 48

It is a lack of recognition of our essential oneness in our spiritual origin that allows the growth in the human heart of selfishness, of self-seeking. This is the root of all evil and of all evil-doing, so far as humans are concerned, as it is the cause as well of all individual misery and unhappiness. From this child of our lower nature, when released from the benign and restraining influences of the higher nature, there pours forth all the things which make life dark and sad and unhappy.

Ethics and morals are founded on the laws of the universe, because they are naught else than rules of harmony in human conduct, copying the harmony prevailing in the cosmic spaces. All that we need to do is to understand those laws, to realize them in our hearts, to take them into our consciousness; for then we shall be able consciously to follow the fundamental operations of the universal life.

And we cannot be in touch with these universal laws until we banish from our minds utterly the idea that man is merely his physical body, a body unensouled, and evolved in the mechanical and uninspired method taught by the transformists. Rather we must recognize man as a spiritual entity, a monadic center, whose origin is the heart of universal life. It is this inner spark of light, in man as in all beings, that furnishes the evolutionary urge towards producing ever fitter vehicles of self-expression. FOOTNOTE:

1. "The History of Organic Evolution" presented on March 27, 1926, at the request of the science committee of the Board of Education, New York City. For full text see *Science*, vol. LXIII, May 14, 1926; also *Annual Report Smithsonian Institution*, 1926. (return to text)

Chapter 10

Reincarnation and Evolution

The philosophical principles, or the laws of nature, which lie behind the processes leading to the formation and the eventuation of the human species are a copy in miniature of what takes place in the universe, the cosmos; the reason being that this universe in which we live is guided from within and acts outwards, and this guidance is by law, that is, by perfect consistency in action.

Given definite circumstances, certain operations of nature always follow the same courses; and these being universal laws, they must therefore likewise affect everything in the universe in which they operate, because everything therein is a part of that universe, a part of its composition, a part of its constitution. Hence, since we ourselves are a part of that universe, we have everything in us that the universe contains, either latent or active. We have all capacities and faculties, developed or undeveloped as the case may be, for understanding it; and we follow those same laws because being a part of that universe we cannot do otherwise. From this fact, so simple, so easily understood, depends the doctrine of cycles as carried out in the evolutionary development of the human kingdom — as indeed of all the kingdoms of universal nature.

Have you ever reflected over the idea of nothingness? of the meaning of the words "an utter end"? or coming out of somewhere, without object or aim, and vanishing again into an infinite nothingness — a useless and futile course of life? Yet all our common sense, as well as our intuition, tell us that we are here for purposes. We came here in response to an operation of nature. The secret of the origin of the making of man lies in the making of the universe. We children of the universe, intrinsic and inseparable parts of it, must ineluctably follow its course; yet likewise do we follow, each one for himself, his own particular life cycle. In man the evolutionary cyclic course is carried on by means of repeated incarnations. When the period of death or rest has been achieved and run through, and rest no more is needed, then we return to this earth in order to take up again our interrupted work, further to develop, further to evolve. This advancing, this unfolding and pouring forth of the energies of the inner generating life is what we mean by evolution.

It is through the lessons which each incarnated entity learns on this material earth that evolution actually takes place. I may add that death itself, which follows a hidden process, is actually another school of evolutionary progress by which the soul, passing along its pathway of experience, also learns.

Throughout a single lifetime we do certain acts, using the forces innate in us, and reacting against the stimuli of nature around us; and thus we lay by seeds of action in our characters which become modified by such use of the powers within us. These seeds must some time fructify and bring forth their fruit, even as we here today are the fruits of former actions, former thoughts, former aspirations that we followed or did not follow. Either of the two cases is equally important, because our sins of omission are often as serious in their effects upon our character and the lives of others as are our sins of commission, and in both cases we are responsible.

Man expresses through his various vehicles, visible or invisible, through his physical vehicle, for instance, his inner forces, thus following the imperative drive of his character. This is evolution, which as a procedure has two aspects: (1) the unfolding or unwrapping of the inner powers in response to (2) the multitude of stimuli arising out of the world around him. It is thus that man learns, ever going step by step higher and higher, until from his present stage of imperfect development, he will finally reach a state of divinity, each ego becoming a fully self-conscious god, a fully self-expressing god.

But is this the end, the final culmination of his destiny, a complete stoppage of operation of all forces and powers and faculties which he unfolds? No, there is no absolute end, no absolute ultimate.

Man is in his essence a spiritual being, a monad, adopting the old Pythagorean term meaning a unit, an individual. Hence he is a consciousness center, a life-consciousness-center, eternal in its essence, because it belongs to those parts of the universe — the higher worlds of the cosmos — which die not, nor do they pass away. It is what is called in philosophy pure substance, and is not the composite matter of which our physical universe is built, but belongs to the more ethereal and the invisible parts of our universe which lie within and behind our physical universe of phenomenal appearances. Yet while these inner and invisible worlds are the spheres of the monad's activity, in its own essence it is far higher than these are, for it belongs to the divine in the roots or heart of its being.

Now this monad, this spiritual life-consciousness-center, when the time comes for its reimbodiment, is subject to a coarsening or materializing of its outer vestures. Itself remaining always as divinity pure and simple on its own plane, nevertheless it clothes itself in the lower spheres with vestures of light, as they would seem to our mental and psychical senses. This is not a metaphor, but an actuality, for light is substance, although to us it manifests as an energy merely because it is a substance superior to the matter of our own physical plane.

Thus the real man passes through the spheres intermediate between his physical vestures and the plane of the monad by means of a ray emanated from the monad. This monadic ray is the ego-self, and it is this ego-self which passes down through these intermediate spheres, and in so doing takes upon itself garments or vestures or vehicles appropriate to these spheres, each to each. These are its intermediate bodies which, using a generalizing term, we may collectively call the "soul"; until finally the moment comes when that soul, as the aggregate activities of these intermediate spheres, is enabled to influence the forces and matters of our physical world. Thus the ray or soul passes into physical incarnation and takes unto itself a physical vehicle or body, much as it took unto itself appropriate vehicles on the intermediate planes through which it passed, each such vehicle or body thus acting as a carrier of the monadic ray or ego-soul.

A purely spiritual being could not live or express itself on a plane of physical matter, for its energies are not appropriate to such a sphere. The monad must have an appropriate vehicle or body in order to manifest itself, and in which it may live and work. In other words, there must be an appropriate temple for the enshrining of our inner god, which the monad is. This is what is meant in the old teaching: "Know ye not that ye are the temple of Divinity, and that the Divine dwelleth in you?" (*1 Cor* 3:16).

When man, as an ego-soul or monadic ray, thus passes into physical incarnation he is born into the physical world and runs through his life courses on earth. What causes these courses which a man follows? What is it that is behind the things that he does and the things that he leaves undone, thereby making for himself a character which culminates in a destiny? What are all these forces in man? What is the drive behind him? Collectively speaking, it is what he has built into himself in preceding lives, and which is now finding its outlet, now finding its fruitageground, and it is in this manner that man works out his karma.

A farmer sows seed in a certain field and the seed takes root and grows, and produces its crop. Where? In some other field? No, but where it was sown. In similar fashion do our thoughts and actions plant seeds of future activities into ourselves, into our characters through the action of karma, the law of cause and effect, which more accurately is expressed as the law of consequences.

Man likewise is greatly affected by the general karma of the race to which he belongs, and by the general law of consequence appertaining to the universe in which he lives. It is the working out of all these latent potentialities that he has inbuilt into himself that makes his life in any one incarnation. It is the working out of these which directs what a man will call his struggles to betterment and his aspirations to higher things. Then, when his course is run in any one lifetime, he passes to his postmortem rest; and when this repose in its turn is ended then he returns to this sphere in a new cycle of activity, yet in each new incarnation he gains fresh experiences. Always does he more largely develop his inner faculties and power; always, therefore, has he evolved to a point farther along the pathway than where he was before. It may be little, or it may be much.

Some people object to the teaching of reimbodiment, which in the case of human beings is called reincarnation. Yet it is such an old teaching, and has had the common consent of universal humanity. Some people say: "I do not like the idea of being reincarnated. My life has been very sad. I have suffered deeply; this earth has been the scene of my sorrows; I don't want to come back here again." Others say: "I like reincarnation as a theory; I recognize it as the most logical explanation ever offered to thinking man of the problems of life; but I don't like the idea of coming back into this world and having to go through all that I have been through; and the thought of making the same mistakes over again repels me." In their own minds resides the thought that they will have the same old name, be in the same old station of life, and have the same old troubles, and do the same old work. No.

In the first place, reincarnating before eighteen hundred or two thousand years have passed, as our teachers have taught us, is an exceedingly rare thing — so rare that we may forget the exceptions. Look at the differences in the conditions of life as they exist in our own present world, and what they were around two thousand years ago. Yet few indeed complain of being in this life, and most people seem to cling to it rather fervidly. The objectors forget that the laws of life are not what we at any one particular moment of time may think that they ought to be, or what we in our blindness might wish them to be. We cannot change the courses of existence by our likes and dislikes.

We do not come back into the same old body. We have a new body, obviously. We do not come back into the same old house, which by the time of our return will have become forgotten dust. Our condition in life may, in our next incarnation, be very much better, or it may be very much worse than the present; for if we do not improve ourselves now when we have the chance of bettering conditions, we certainly will have to take the consequences.

This is the meaning of karma, the doctrine of consequence. We reap what we sow, and where we have sown; and if we have sown seeds of good and evil in this life and on this earth, it is only in this or another life on this earth that we can reap what we have sown. Our universe is ruled by law and order; and this word karma expresses that fact of universal harmony and consistency manifesting as what we call law and order. Everything that we do, everything that we think, is a productive cause, affecting us and those around us, yet leaving the seeds and the fruits of such thoughts and actions in ourself. We have laid up for ourself in past lives treasures for happiness; but we may have also laid up for ourself a treasure house of another kind, and we are doing similarly in our present life. We are going to have a body and a character in our next incarnation which will be the exact fruitage or consequence of the entire sum total of what we have thought and done in this life, as modified only by the as yet unexpressed and unworked-out consequences of previous lives.

I have heard an objection of another kind, running in the contrary direction, and it is this: "I do not like the idea that I am going to come back and be another person. I want to be myself. I do not want a new body: I am satisfied with this body of mine. It has treated me well, and I have tried to treat it well." Those who make this objection also do not understand. As a matter of fact, they are going to keep that same body. Now this sounds like a contradiction of what I have just said, but it is not; it is a paradox.

The fact is that our body is composed of hosts of lives, of smaller and inferior entities, which are nevertheless learning entities just as we are. And I may add in passing that we too are hosts of smaller lives, smaller and inferior to cosmic entities far greater than we are. But these hosts of lives inferior to us and which compose our bodies — what are they? Are they for all eternity just standing still as they now are? No, they are evolving even as we are evolving. They came from us originally; they are our own children; they are what we call our life-atoms. They sprang from us; we sent them forth, and we shall have to meet them again when they return to us at our next incarnation, through and by the action of psychomagnetic attraction. They will provide for us when they reaggregate themselves into a physical form for our next incarnation; and we shall have a body consisting of just what we have impressed upon them today and in past lives by our thoughts, by our acts, and by the consequences of our thoughts and acts.

So that the next body that we shall get will be — not the same old body that we had before; not the same John Smith or Mary Brown. Our new body will be composed of those same life-atoms in which we lived and worked and expressed ourself in the preceding incarnation. And remember that these life-atoms exist not merely on this physical plane where our physical body is, but they exist likewise on the intermediate planes; that is to say, on the astral and emotional planes, as well as on the intellectual and spiritual planes.

It is by means of these life-atoms on all the different planes that the ego-self, emanated from the monad, is able to build for itself new bodies, inner and outer, in the new incarnation. It passes through all the intermediate planes, building up for itself from the same old life-atoms that it before had — its own children, waiting for it there — a vehicle or body appropriate to each such plane. Similarly is it on the physical plane where the physical body is. Here we have the original and correct explanation of the much misunderstood Christian doctrine called the Resurrection of the Dead.

Now there are three methods, we are told, by which reimbodiment proceeds, and these three work together in strict harmony. One method is what we commonly call reincarnation, which the mystics among the ancient Greeks spoke of as *metensomatosis*, that is to say, coming again into body after body, "re-imbodying." This word was taken over from the Greek Mysteries by Origen, one of the earliest of the Christian Fathers, although with certain modifications due to his Christian bias.

The second method is the procedure called *metempsychosis*, that is to say, coming again into a soul, or psyche — "re-ensouling."

The third method, which the Greeks kept secret in their Mysteries, but which certain of their philosophers such as Pythagoras, Plato, Empedocles, and later the Neoplatonists more or less openly hinted at or taught, is the activity of the monad, the spiritual fire at the core or heart of each one of us. This monad manifests our spiritual self, because it is that spiritual self, a consciousness center which is the fountain of our being, whence issue in flooding streams all the nobler energies and faculties of its own character, and which, considered as a unit, furnish the urge or drive or impulse behind all evolutionary progress.

First, then, there is the activity of the monad, the highest. During the process of incarnation the activities of this monad develop the intermediate nature which ensouls soul after soul, and this is the real meaning of this old Greek word metempsychosis; and these souls thus invigorated, inspired, and driven by the ensouling monad, ensoul body after body, which is metensomatosis, or reincarnation, as the word is commonly and properly used.

Hence, evolution proceeds on three general lines: the spiritual, the mental-emotional, and the astral-vital; and the physical body is the channel through which all these inwrapped capacities, tendencies, and powers, express themselves on the physical plane, if the environment at any particular moment or at any particular passage of time be appropriate and fit for the expression of this or that or of some other such attribute, power, or faculty. The combination of these two — the inner urge, the drive, and a fit and appropriate environment or field — means the evolving, the coming out into manifestation, the expression, of those inner forces or powers.

As is evident, this includes a far wider and vaster conception of evolution than any that has hitherto been entertained in the ranks of scientific researchers.

The strength of the doctrine of reincarnation lies in itself, in its appeal to our intellectual and logical faculties, in its own persuasiveness, in the manner in which it answers problems, in the hope that it gives, in the light that it sheds upon collateral questions of human life, and indirectly upon the problems of the physical world surrounding us. It is through and by reincarnation as a natural fact, that we learn the beauty of the inner life and thereby grow, developing a larger comprehension, not only of ourselves, but of the loveliness inherent in the harmony of the universal laws. For there is back of all things beauty, and bliss, and truth.

What men call evil and misfortune and accidents, and the disastrous phenomena of the physical world which sometimes occur, arise out of the conflicts of the wills and powers of the various hosts of imperfect but evolving entities, one of such hosts being what we collectively call humanity.

Reimbodiment is a universal fact because it is a law, that is to say, a continuous and consistent operation of nature, running throughout all being. The universe reimbodies itself when its course has been run, and after its period of rest which thereupon follows. Men do likewise; not because reincarnation is for them alone, but because it is the same fundamental law of cyclic beginnings and endings, and in the case of man it means only that he returns to pick up again the threads which he had dropped at a certain turn of that cycle which we call death.

Its procedure is strictly lawful, there is in its working no

haphazard chance, no fortuity, no favor; it is merely the succession of state following upon state in strict accordance with cause and subsequent effect. Nobody and nothing operates it. It simply is; and its working is set in motion in every individual case by the action of the will of the entity upon the nature surrounding it. No god created the law of our reimbodiment. It is an intrinsic function of nature, and it acts in that way only because it can act in no other way, being simply a statement of the doctrine of consequences — of consequences following upon originating causes.

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Chapter 11

Karma and Heredity

Karma is a companion doctrine to reincarnation. The one without the other is meaningless. It is the law of consequences, sometimes called the law of cause and effect; yet more strictly speaking, it is the operation of effects or consequences, for *karma* is a Sanskrit word meaning "action" — as cause plus effect.

The originating cause is the consciousness of the individual who acts upon nature; nature reacts against that action upon it, and that reaction ensues immediately or at a later date, or even in a future incarnation of the original actor, or in a still more remote imbodiment of that actor in a garment of flesh. When the proper opening appears, when the links, so to say, are ready, when the doors open to the entrance of the forces of nature constituting that reaction, then it comes. And the individual may say: "What have I done that I should suffer so? I know no reason for it." Or, on the other hand, he may exclaim: "What have I done that my destiny should be so great? I remember nothing in my life causing or meriting this!"

We readily recognize the fact that although our own karma may be physically "good," it will not remain so if we selfishly live in it and take no thought of our brothers' misery. The best karma that can possibly be made by any human being is that which follows on recognition, and consequent appropriate action, of the fact of our intrinsic kinship with all others, this feeling and sense of unity urging us to work to alleviate suffering and sorrow wherever they are found.

Karma is in reality character. It is that which a man has made himself to become, not just in the one life, but throughout the succession of lives which the invisible entity, *the man himself*, undertakes in his progressive evolution. This process involves the working out of karmic effects and explains the problem of heredity as no modern biological theory has been able to do.

In his book *Evolution and Ethics* (1894), Thomas Huxley, champion of materialistic biology though he was, speaks almost like a Buddhist when he says:

Everyday experience familiarises us with the facts which are grouped under the name of heredity. Every one of us bears upon him obvious marks of his parentage, perhaps of remoter relationships. More particularly, the sum of tendencies to act in a certain way, which we call "character," is often to be traced through a long series of progenitors and collaterals. So we may justly say that this "character" — this moral and intellectual essence of a man — does veritably pass over from one fleshly tabernacle to another, and does really transmigrate from generation to generation. — p. 61

Huxley is here speaking of the biological doctrine that a man passes on to his offspring his own characteristics, not merely of body but also his psychical tendencies, for these characteristics are supposed to lie latent in the germ plasm, that is, the reproductive cells which father and mother pass on to their children. It is perfectly true that this aggregate of physical and psychical characteristics and tendencies actually does transmigrate from the parent to the offspring; and "transmigrate" is exactly the proper term to use here. We say that it is the lifeatoms, or rather a portion of the life-atoms in a lower state of evolution, which do transmigrate from parent to offspring, for these particular life-atoms are they *which inform and vitalize the transmitted* germ plasm.

Huxley continues:
In the new-born infant, the character of the stock lies latent, and the Ego is little more than a bundle of potentialities. But, very early, these become actualities; from childhood to age they manifest themselves in dulness or brightness, weakness or strength, viciousness or uprightness; and with each feature modified by confluence with another character, if by nothing else, the character passes on to its incarnation in new bodies. — Ibid., pp. 61-2

Now the above is indeed a statement of a part of heredity, but only a subordinate part. It belongs to that aspect of it which involves the transmission of the vehicles preparing for incoming souls, and this is accomplished by the passing of the atoms of life, the life-atoms of a lower grade, through their transmigration from parent to offspring.

Transmigration covers a field of thought much wider than this. It has to do with the life-atoms composing the various vehicles in which man clothes himself — not merely his physical body. These vehicles are his sheaths of consciousness, the veils of his understanding; for remember that man possesses various bodies ranging from the spiritual to the physical, these bodies being on the different planes in which and on which he lives and moves and has his being and works out his destiny.(1)

The action of karma finds place on all the planes — most of them interior and invisible — with which man's inner constitution is linked: spiritual, intellectual, psychical, emotional, astral, pranic, and physical; including, in short, all the various encasements or vestures in which man lives on these various planes, and which ensheath the glory which man is in his spiritual nature. And of this glory, we in our physical brain-workings get but a faint reflection, somewhat as the moon gets a faint reflection of the glory of the sun and transmits it as moonlight to our earth. What then is heredity from the standpoint of the theosophical student? It is unquestionable that children take after parental and ancestral types. What we call heredity is simply the carrying on from generation to generation of certain traits or biases or peculiarities or deformities or symmetries from father to son to son to son. But what are the causes behind this procedure?

The theosophist points out that assemblings of similar individuals is brought about by psychomagnetic attraction. The facts of heredity are no mere fortuitous or chance happenings, nor are they merely a mechanical process, but they are the consequences of likes attracted to likes; and reincarnation is the means by which such aggregating similarities of character in a family are brought about. Thus ABC, GHI, XYZ, are all individuals with characters resembling each other, and consequently sympathy arises amongst these — what we call attraction. These egos, therefore, drawn by such psychomagnetic attraction to each other, incarnate or take imbodiment in the same family milieu; and thus we have a picture of what scientists call heredity passing on from generation to generation.

When an entity is ready to reincarnate, it is drawn psychomagnetically, instinctually if you like, to the family, to the womb, most sympathetic to its vibrational rate. Thought and reflection will show the immense likelihood that you will be attracted to the family milieu, to the family environment, which offers the rate closest to your own. There is less difficulty synchronizing with that family than with some other. Here we have a reason for similarities of character types in families. It is not the parents who give the traits to the child. It is the child, *bearing these traits within himself*, that is attracted by sympathy to the parents who will give him a body best fitted to express the character he already possesses *in potentia;* and thus the general family type of character is continued, though with constant modifying variations.

Thus it is the imbodiment in generation after generation of any single family strain, of egos already possessing similarities bringing these similarities into earth life, and carrying them in and through such family, which brings about the phenomenon called "heredity." And this is as true of physical heredity as of psychical heredity, the life-atoms in every case, under the dominant urge of the different imbodying egos possessing similarities, more or less slavishly following these communal egoic sympathies or character traits.

Being a bit more specific, one may point out that the psycho-astral fluid emanating from the ego of the reincarnating entity flows through, permeates, washes all the life-atoms which build the cells with the latter's stock of chromosomes, genes, etc. The dominant psychical power of the reimbodying or already reimbodied ego forces these emanated cellular bodies in conformity with its dominant urges.

We have seen that character is not something given to the child by the parents, but is carried over from life to life of an imbodying entity and brought with it into earth life. How is this carrying-over brought about? The answer is to be found in a study of the *skandhas*.(2) When a man dies he takes with him into the invisible worlds the essence of that character which he had been building for himself in the life just ended and in other lives before that. These attributes are his skandhas, and they remain as seeds of unfulfilled impulses lying latent until the time comes when they shall have an opportunity for further flowering in the field of another earth life. The reincarnating entity attracts them together again as it descends anew through the portals of birth, and as the child grows they gradually manifest themselves as his personality, his biases, his tendencies, his strengths and his weaknesses, in other words, the sum total of the character of his "personality," to use a technical theosophical term, which must not be confused, however, with the immortal *individuality*, the essential self or fecund root of himself on all planes.

Now then, if all the above is true, how is it that children born of the same parents sometimes differ not merely in small degree but even in very noteworthy degree? In every case it is *character* from other lives, to be sure, that is manifesting itself. But why does an ego sometimes find itself born into a family to which it is entirely antipathetic? It sometimes happens — and this is a paradox — that strong antipathies actually attract each other, it being an old saying of philosophically-minded observers that hatred has its attractions as well as love. So that in a single family we may see two or more children developing on the one hand most affectionate sympathies for each other, or on the other hand even violent antipathies which link certain individuals together by ineluctable karmic bonds.

In the last analysis we see that man inherits *from himself*. Heredity is character and character is heredity. Even in the case of purely physical heredity, it can be said that man makes his own body, the parents merely providing the workshop and to some extent the materials with which it is built. The incarnating entity is the directing power behind the scenes. And environment is simply the magnetic field that we have chosen in which we may best work out those aspects of character which are the "dominant" for that particular incarnation.

Man is an individuality. He has free will. He is changing from day to day, from year to year, from life to life. He is not static. He is building now what his character will be in his next incarnation, and when that next incarnation arrives he will bring *himself* with him into the new life. He is thus his own heredity, his own character, his own karma.

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FOOTNOTES:

1. This subject is extensively dealt with by me in *The Esoteric Tradition*, chapter 15, 3rd & Revised Edition. (return to text)

2. *Skandhas* (Sanskrit): "bundles," groups of attributes which compose the material, mental, emotional, and moral qualities forming the constitution of a human being. (return to text)

Chapter 12

Man's Body in Evolution

The theosophist, a thoroughgoing evolutionist or, perhaps more accurately speaking, emanationist, looks upon the evolution or the perfection of the physical body of man with profound interest. But with a far more profound and wide-reaching searching of his heart does he study the evolution of the inner evolving monad which expresses itself through its physical vehicle, the body, and which on that account furnishes the drive, the urge, the impulse, ever upwards and forwards, causing that body to change its form slowly as the ages roll by, becoming with every new era, with every new aeon, a more fit vehicle to express the indwelling intellectual and spiritual forces and potencies of that monad.

These spiritual forces or potencies seeking an outlet, seeking to express themselves, work through the infinitesimal particles of man's inner constitution, the life-atoms, which exist on many planes, on at least four below the intellectual part of that monad.

In the physical body these life-atoms are enshrined within the cells of that body, working through the atoms of which those cells are composed. Thus is it that the evolutionary drive finds its outlet; it comes from within, expresses itself through the intermediate nature of man, then finds an expression through the physical vehicle, in order that the thinking entity may see this world of matter even as we do see it, and draw such lessons from companionship with it — as a master, if you please, not as a slave — which it may and can draw.

It is to the thoughtful mind a palpable absurdity to suppose that all thinking entities must have a physical encasement in all respects, or indeed necessarily in any respect, identic with the human physical body today. This would be equivalent to saying that no entity could have consciousness or intelligence or the power of consecutive thinking, or the moral sense, unless his physical frame were in all respects identic with our own.

Intelligence and consciousness and the moral sense could live and express themselves quite as easily in physical bodies of an entirely different type from ours. Indeed, it is the theosophical teaching that self-conscious, intellectual, and even *spiritually* selfconscious beings live and follow the courses of their respective lives and destinies on certain other globes of our solar system.

On this earth, self-conscious beings, or what we call humans, currently have the bodies they have as the fruitage of a long evolutionary ancestry, as the necessary resultant, evolutionally speaking, of bygone workings of the inner urge or drive inherent in man's inner constitution and working thence through the physical matter existent at our present epoch. The same thing applies, historically speaking, to all preceding geologic periods and to all zoologic periods which are destined to follow our present one.

For instance, would man be less human if he had a tail? Not at all. A tail neither makes nor unmakes an animal, nor would it make or unmake a man. What is man? Man is the inner consciousness, a thinking entity, the source of the moral sense, the source of the intellectual power, the center of the spiritual aspirations which we all have. Man's body, on the other hand, is but the physical encasement in and around which he lives, self-expressing himself through it; and the manner of that self-expression through this physical body forms a part of the subject of our study.

As a matter of fact, hundreds of millions of years ago, during the third globe-round, i.e., during the preceding great planetary period, the earth bore its appropriate and characteristic fruitage of lives, and many and various were the classes and groups of evolving beings in different degrees of development. At that remote time man did indeed possess a physical body or encasement of which a tail was then a more or less useful appendage. All record of that zoologic fact is at the present time completely passed from human memory; nevertheless our teaching is that the physical men of that period hundreds of millions of years ago, did have a tail, albeit a short one.

The old Hindu legends and mythoi relate how the gods and the men of a past age associated with intelligent beings who are described as monkey tribes, who spoke and constructed dwelling-houses and built cities, and whatnot. These myths, based upon half-forgotten memories of a geological past and handed down from generation to generation through the ages, acquired in far later times the legendary form in which we now possess them, as for instance in the very ancient and extremely interesting epic tale, the *Rāmāyaṇa*, detailing the adventures and loves of Rāma and his delightful companion and wife Sītā.

Indeed, if the mere lack of a tail as an appendage to man's physical body were the sole test of evolutionary progress, then the tailless gorilla — one of the anthropoid apes, and considered by some zoologists and anatomists to be man's most immediate animal ancestor — stands higher than man along the pathway of evolution, because the gorilla has but three coccygeal bones or caudal vertebrae, i.e., the bones at the end of his spine; but man has four and sometimes five. In addition to this interesting fact, we may point out in passing that it is well known that babies are sometimes born with a rudimentary tail, what we might call an automatic reversion to a former condition.

What is man, I ask again? Man is the inner entity, the thinking energy, the consciousness — all that bundle or aggregate of forces which is consciousness, which thinks, which has a moral sense, and which aspires. The animals have all these spiritual and psychological potentialities in them also, but they have them latent; they have not developed a proper vehicle for the selfexpression of these noble powers and faculties. But in man those fine inner faculties have indeed possibilities of self-unfoldment through a vehicle which has been evolved and trained to manifest them. Hence man is what he now is both physically and psychologically.

The truth of this matter is that man's physical or corporeal encasement exhibits at any period of evolution exactly the state of self-expression on this plane which the indwelling monad has attained. Consequently, his evolution proceeds in stages that his power or facility in self-expression creates, from the smaller to the greater, the expressing vehicle in consequence following step by step and line by line the urge or drive of the inner impelling power.

Thus faculty always precedes organ; the organ is its representative, built up by the inner faculty for purposes of selfmanifestation; otherwise, how could it exist? Whence could it come into being? What use would it have were there no preceding faculty which had built it for self-evolutionary purposes? Things do not just arise in the universe in haphazard fashion nor without a well-defined and expressing cause behind them. Hence, anything that appears or is manifest is an obvious proof of a forcible urge behind it that is thus showing itself. In other words, a phenomenon is a proof of a causal noumenon in the background which manifests itself through a phenomenon, which is thus its organ of self-expression.

It is a natural consequence of this that the physical body or encasement or vehicle must take on at different periods of evolution widely different and varying forms or shapes. Our bodies have not always been as they are now. What would you say to the statement that the original "human" corporeal sheath or body in the early ages of this planetary round on our globe was of a quasi-spherical shape, of an egglike or ovoid form, in the center of which the entity resided?

Further, it was not exactly luminous but luminescent and translucent, starlike, we might say highly phosphorescent. It is for this reason that we speak of that particular grade of matter as "astral," because such matter resembled the luminous nebulae that we discern in the blue dome of night; for astral means "starlike."

Since that far remote epoch of geological time, the bodily shape of the physical encasement has varied and changed step by step according to the calls of evolutionary necessities and progress, before attaining the form that it now has; and this change will continue progressively throughout future time, following faithfully every increase in power for self-expression that the inner entity acquires.

In the future, man's body will be far different in shape, in texture, and power of expressing the inner faculties, from what it is now. In the distant aeons of the future, our body will change equivalently with the passage of time, responding accurately to new needs, to new calls for self-development, and to new stimuli from the outer environment to which the inner man automatically answers; and, further, that outer environment itself will slowly change to a much more ethereal and refined condition.

Aeons upon aeons hence, during the last part of the seventh globe-round, the outermost covering of the entity which man shall have become will have returned to an ovoid or egglike form and will be, for the far more refined and spiritual matter of those future times, the physical or corporeal — if such words can be used — encasement of the self-expressing divinity at the heart of each such ovoid body. Of course in those days, instead of being composed of gross, coarse, physical substance such as our bodies now are, this ovoid outer form will be a garment of dazzling light, sunlike, glorious, resplendent, and the entity at its heart will be that godlike inner man which man will then have become through self-evolving the spiritual powers which he is in his inmost self.

Thus it cannot be too emphatically reiterated that the physical body springs from, is a result of, the spiritual and invisible forces inherent within. It is these forces which make that body and control it and govern it, and give it shape and hold it together. This force of coherence, and all the other physical energic phenomena which the body manifests, have sprung from the inner fountain; for it is within the individual that lie the springs of energy or force, and therefore of all action.

Each man ensouls his own body. He is the oversoul, so to speak, of each one of the molecules or cells or atoms composing that body. In like manner do we originate from our spiritual root, because our inmost self reaches back into the heart of the universe. It is, in fact, this self of us which is at the heart of the atoms themselves. It actually forms these atoms, and then casts them forth, excretes them as it were, and thereupon lives in them. Thus does man build up his body from his own interior life forces, and works through it and manifests his various life fires in it.

Medical investigators into the mysteries of the human body used to search in it for an immortal soul, some tangible proof of human immortality. In the name of all conscience, what did they expect to find? An immortal body? A dead body, so called, neither speaks, nor breathes, laughs, thinks, or sighs. What then is death? What has happened when the body dies? Something did so act and manifest itself when the body was alive; that something once manifested all those powers which the living man shows, faculties transcendent with spiritual aspirations. What has become of them? The truth is they could not see the working of the inner entity on account of the manifold phenomena which it expresses in the living body. Consequently they passed over with unseeing eyes and uninterpreting minds the very proofs before them.

How did such ideas arise among Western European thinkers when science began to gather to itself some knowledge of the physical world, and the mind of man found itself more free to embark upon nobler thinking? Did these extremely limited ideas arise out of the fact that pictures and teachings which in the early days of Christianity were symbolic, finally came to be taken as literal facts — such for instance as the pictures that you may so often see in European Mediterranean countries of angels with human bodies, but possessing wings like gigantic birds; or beings with no bodies, and nothing but a head and a pair of bird's wings; or beings depicted as arising out of the corpse in the grave in the shape of a human form more or less outlined; or, as sometimes shown, of a mannikin issuing from the mouth of the expiring one with the last breath?

These very materialistic reproductions of the so-called human soul were originally purely symbolic, and never were intended, when first used, to be taken in their literal form. They were copied from the so-called pagan Greek and Roman symbolic reproductions of the passing of the inner entity at the beginning of the long sleep which they called and we also call death.

It is true enough that the inner entity, as compared with its gross physical vehicle, is an energy, a force, to our eyes invisible, intangible to our touch, and manifests in the living body as such an energy or force or power, the faculties which it shows during such manifestation being its intrinsic character. Is not this exactly what takes place as shown by the phenomena of the living, conscious, thinking, aspiring, emotional, psychical, passional, intuitive entity as it works through the body? Strange composite of heaven and earth, a compound energy, a bundle of forces, which death separates out and lets go, each of these along its own especial pathway.

Yet when we call the inner entity an energy, a bundle of forces, we likewise mean that it is substantially material in a nobler sense. And in this, the latest discoveries of physical science unknowingly corroborate the archaic teachings, for the scientists today teach that force and matter, or energy and matter, are fundamentally one, matter being, so to say, crystallized energy, or force; and energy or force being, so to say, subtle and moving matter. There are, as has been shown, many degrees or grades or stages of substance. There is, first, the physical; then what we call the astral, or ethereal; then the more ethereal; then the still more ethereal; then the intellectual, if you like so to call it; and then the spiritual; and at the acme, forming the summit of the hierarchical progression, is the divine substance. Even so is man built throughout his hierarchical inner and outer constitution.

This body of ours, though truly wonderful if we look at it from one viewpoint, from another viewpoint is a most imperfect vehicle for the self-expression of the reincarnating and reincarnated entity. It cannot manifest a thousandth part, not even a millionth, a billionth, part of what there is seeking selfexpression in the inner man, the invisible human entity.

It is through the senses mostly that we seek to self-express ourselves; and everyone knows how imperfectly they receive impressions from the outside, to say nothing of their feeble power in unfolding the locked-up powers and faculties and feelings which are within.

There are five senses as we now have them. Each one is the fruit of long evolutionary labor; imperfect as they are, yet how well they serve us. But how much better will they not serve us as time passes, in the aeons of the far future when they shall have become much more perfected, much fitter instruments for the self-expression of the inner entity.

This entity, when it seeks incarnation, is essentially an aggregate of forces: spiritual, intellectual, psychical, emotional and astralvital. When it finds its time for assuming (or reassuming) a new physical body, it is magnetically or perhaps electrically drawn into that family, more particularly into that mother cell, which closest presents in its own cell sphere the lowest rate of vibration of the reincarnating being. In this respect the attraction is magnetic and the incarnating entity is thereby drawn to the cell having a corresponding vibrational rate. Thereafter the rates of vibration coincide and become one in period. In this way developing life in the fertilized cell begins.

The atoms themselves are naught but equilibrated forces, and therefore the cells which they compose are essentially equilibrated forces. Thus it is easy to see how the communication between the visible and the invisible is naught but a question of similar or differing vibrational rates. It is all a matter of vibrational synchrony. You can make a piano wire sing if you strike its keynote on another instrument. You can break a glass, shiver it, by sounding its keynote on a violin or horn, as is well known, if you can catch and sound the vibrational rate that the glass is built on. I believe that in time to come physicians will discover and utilize the marvelous curative powers lying in sound, let us say in music which, after all, is in its physical sense harmonious sounds.

As the body grows, that is to say, as the growing aggregate of daughter cells forming the body of the individual-to-be receives in ever-larger quantity, and in ever-more specialized forms, the different forces of the entity coming into physical life once again from its long rest after its preceding life on earth; or, to put it in other words, as the growing body answers in continuously increasing perfection to the combined rate of vibration of the principles composing the entity then reincarnating, the individual characteristics of that reincarnating entity grow progressively more manifest.

While these rates of vibration are more or less diffused through the physical body when it attains adulthood, nevertheless there are foci in and through and by which the incarnating entity expresses itself, the channels, as it were, the open doors, through which it pours its lower aspects, thus self-expressing itself in that aggregated body of cells which is now in process of building and forming its physical encasement or body.

What are these foci? Generally speaking they are the various organs of the physical body. More specifically pointing out their location, we may say there are seven main foci or centers in the human body, each one fit and built for the purpose of expressing one of the six general principles — the physical body apart — of which man is composite, ranging from the spiritual to the vital-astral, the lowest.

Where are these foci? First, please understand that an ethereal force, a subtle and delicate force, however tremendous its power may be, does not of necessity need a large physical organ for selfexpression. If there be in the human frame, in the physical body of man, a point as large as the point of a pin, it may be enough. What we may see with our physical eyes as so small a part of physical matter, from the atomic standpoint may contain heaven knows how many atoms.

These foci, then, these centers of etheric transmission in the human body, in the Sanskrit philosophical and other writings are called *chakras*, a word meaning "wheels" or "circles," and therefore what we might translate in this connection as ganglia or glands, perhaps. Of the seven, I will mention here only the two highest which are within the skull: the pineal gland, and the pituitary gland. These two little glands or bodies enable two different and yet co-working and interlocking forces of the man, that is the real man, to self-express themselves through the body. They were built for that purpose through aeons upon aeons of evolutionary labor, and in time to come they will be still more perfected than they are now, and therefore better able to express those spiritual and intellectual and mental and emotional and psychic and ethereal powers which in their aggregate are man.

It is through the seven chakras, foci, channels, openings, doors call them what you like — that the incarnating and incarnated entity expresses itself; and through them that the forces of which man is composed are diffused through the entire body, which is his physical being. (1)

Evolution is the breaking down of barriers, and coincidently the building of the vehicle ever more fit for expressing the interior faculties and powers of the inner entity. It is in part this breaking down of barriers, and in part the refining and building of the vehicle, which enable that inner entity to manifest its faculties proportionately. Evolution is not the adding of stone to stone, of experience to experience — not that alone; it is much more the building up of the vehicle, becoming constantly more fit and ready to express or manifest some part of the transcendent faculties of the human spirit. A highly evolved man has a vehicle more fit and more ready than has a man less highly evolved; and this applies not only physically, but even more strongly on the mental and psychical planes. The inferior man in evolutionary development has not so fit a vehicle, and consequently can express those powers but poorly.

Let us cleanse our minds of crystallized ideas that because things are as they now are, they always have been so, always will be, and always must be; for such would be the reasoning of a child. It is obvious that if things grow, they change; and change is always for betterment in the evolutionary journey — leaving aside all sidelines of growth, such as degeneration. We are now speaking solely of the general course of evolution.

We are all children of the earth in one very true sense, and at the same time we are the offsprings of heaven. Our earth has not produced that wonder-thing within us which directs and governs our lives, which gives us thinking and feeling and aspirations and longings for better things. No, that part which the earth produces is the physical vehicle; but the wonder-thing is we ourselves, and is native in the realms of spirit and ineffable light.

Therefore, while we definitely place man's body in the animal world, we do so because man's primeval physical form was the originant, the primitive source of that entire animal world — an earth product. But is this body of ours man? Man's physical body is but the poor shell enclosing and crippling the powers of a spiritual luminary.

Yet it is a wonderful instrument, if we look at it from another standpoint; but in comparison with the glory of the god which man inwardly is, the animal which is his body and through which this inner splendor seeks to shine, is as nothing. It is but an enshrouding veil, a limiting encasement. Still, it must be a fit vehicle, one appropriate to express those indwelling powers of a spiritual, intellectual, mental, psychic, and astral-vital nature, which in the aggregate are man. It is thoughts such as these which teach us to see the value of ethical rules in life — those fine and noble instincts of the inner being, whose collective mandate is one which we dare not disobey.

Slowly and very gradually do the various vehicles or garments or sheaths, in which the inner nature of man, as of all entities, lives and works, become more refined, more capable of expressing the inner powers and faculties. Behind all there is the general cosmic urge which commingles in action with the individual drive of the entity, always forwards and outwards in self-expression — for the general as well as the individual impetus is always forwards.

And what is this engine whence flow this general urge and the particular drive? It is a spiritual engine. It is, in fact, the monad the divine root within us, taking its general life force from the universal life of which it is an intrinsic and inseparable part, and which at the same time is the fountain of the individual drive. Back of man, back of the animate entities on earth today, back of the many various stems of animate organisms, there is in each case the vital drive of a living monad. These monads are not soiled by the matter with which they work, and in and through which they work — not more so than the rays from the glorious sun are soiled or spoiled or lose their innate brilliancy by the water and scum and ooze and mud in the fetid swamp through which they may penetrate to some degree, cleansing and purifying all they touch.

It is this inner ray or spark of light in beings which furnishes the urge, the driving force, the innate impulse, to higher things. This light comes from the ocean of universal life; and from that universal life in the beginning of our evolutionary course we issued as unself-conscious god-sparks, so to say; passing through innumerably varied stages along the pathway of evolutionary progress. We learn in each stage lessons appropriate thereto, thus garnering understanding of any such stage of our cosmic journey. Passing thence forwards or, what comes to the same thing in the present instance, farther downwards into matter, we enter the human stage and there attain self-consciousness — a selfconsciousness which grows and broadens ever more and more as time goes on; because with every step forwards, with every new lesson learned, our capacities have a larger field for selfexpression; and evolution is nothing but progressive selfexpression.

When self-consciousness has been won, each new step thereafter we can take with a more confident and stronger stride ahead; and thus at every step forwards we learn more than we knew during the last stage. It is thus that self-consciousness broadens into universal consciousness again, when we pass the turning point of grossest physical matter, and turn our faces ahead for the long, long upward ascent. So it is at the end of our planetary period that human consciousness rebecomes universal consciousness, returning after having reached the culmination of our evolutionary course back to the Source whence we originally came, no longer as unself-conscious god-sparks but as fully selfconscious gods.

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FOOTNOTE:

1. See Chapter 13, "Man's Inner Centers." (return to text)

Chapter 13

Man's Inner Centers

The spiritual being that is the real man plays on the physical body as the master musician plays on a wondrous lute or harp. The strings of this instrument, this marvelously constructed physical frame, run from the coarsest catgut, which can produce heavy, sensual sounds, to the silver and gold, and finally to the intangible strings of the spirit; and the musician plays on these strings with masterly sweep of will when we allow it. Mostly we human beings refrain from playing on the nobler and higher strings, and play on the coarse catgut only.

As a matter of fact, this body of ours is one of the marvels of the universe. We at present have no realization of what it contains, of its powers to be developed in the future as evolving time will bring them forth, but which we can hasten in their growth now. These powers of the human being function through the seven main centers of energies in the body: seven organs or glands, sometimes called chakras. Strictly speaking, the chakras are the astral organs or functions, and their specific allocations to physical organs are surrounded in exoteric literature with mystery and uncertainty. They have been known and studied, however, in certain schools since time immemorial. To enumerate these generally, from the lowest up: the genital, the liver and spleen, the cardiac, the brain as a whole, the pituitary gland and the pineal gland. There are others subordinate to these, but the above are the most important. And strangely enough, they are as it were paired: the heart and the brain; the pineal and the pituitary; the liver and spleen; and the pair of the lowest couple, as a matter of fact, is the solar plexus — but this is a story by itself.

Every one of these organs or glands has its own appropriate

function, activity, purpose, and work in the human frame. By our will, by proper study, by living the life, we can make the higher, the incomparably more powerful ones within us, active far more than they presently are, and thus become gods among men. Most of us do not do that. We live in the world below the human diaphragm as it were. And yet, despite our worst efforts to kill the god within us, to destroy its holy work, the pineal gland and the pituitary gland, and the heart, continue functioning just the same. We are protected against our own foolishness.

The lowest of these chakras can be made one of the noblest by changing its functional direction for creative spirituality. Waste brings loss; that particular organ in the human frame can be made the organ for the production of the mightiest and noblest works of genius. It has a spiritual as well as a physical side, as all these organs and glands have. But how many remember the holiness of spiritual creation, so to say?

The liver is the seat of the personal man, the kāma-mānasic individual; and the spleen, the lieutenant of the former, is the seat of the astral body, the linga-śarīra. Even at séances — which I would not advise anyone to frequent — it has been shown how the astral body of the medium oozes out, first as a slender thread, and then becomes, when the manifestation is *genuine*, what is now called "ectoplasm," really thickened astral stuff; and it is from the spleen that this astral body comes forth.

Then the heart, the organ of the god within us, of the divinespiritual: here in the physical heart considered now as a spiritual organ — and not merely as a vital pump, which it is also — is the god within; not in person, but its ray touches the heart and fills it as it were with its auric presence — a holy of holies. Out of the heart come all the great issues of life. Here is where conscience abides, and love and peace and perfect self-confidence, and hope, and divine wisdom. Their seat is in the mystic heart of which the physical organ is the physical vital instrument.

The brain *as a whole* is the organ of the brain-mind, the field of activity of our ordinary reasoning, ratiocinative mentation by which we think ordinary and even higher thoughts, and by which also we go about our daily tasks. But connected with the brain are the pineal and the pituitary, already mentioned. The pineal gland is as a casement opening out into infinite seas and horizons of light, for it is the organ that in us receives the direct *mahatic* ray, the ray direct from the cosmic intellect or *mahat*. It is the organ of inspiration, of intuition, of vision.

The heart is higher, because it is the organ of the individual's spiritual nature, including the higher manas or spiritual intellect. When the heart inflames the pineal gland and sets it vibrating rapidly, then so strong is the inflow of spiritual force that the man experiencing this has his very body clothed in an aureole of glory. A nimbus is behind his head, for as the pineal gland vibrates rapidly the inner eye is opened and sees infinity; and the aureole or nimbus is the energic outflow from this activity of the pineal gland.

The pituitary gland is the lieutenant of the pineal. It is the organ of will and hence also of automatic growth; the organ of will and urge and growth and impulse. But when the pineal sets the pituitary vibrating in synchrony with its own vibration, we have a god-man, for there is the intellect envisaging infinity. Then the divinity in the heart speaks and vibrates synchronously with the pineal gland, and the pituitary thus inspired to action of will, works through the other chakras or organs and makes the entire man a harmony of higher energies — relatively godlike!

All great spiritual leaders and teachers the world over, the great men-gods of the human race, have told us how to increase the vibration of the pineal gland in the skull. The first rule is to live as a true human. It is as simple as that. Do everything you have to do, and do it in accordance with your best. Your ideas of what is best will grow and improve. The next rule is to cultivate *specifically as units* the higher qualities which will make you superiorly human as contrasted with inferiorly human. Be just, be gentle, be forgiving, be compassionate and pitiful. Learn the wondrous beauty of self-sacrifice for others; there is something grandly heroic about it. Keep these things in your heart; believe that you have intuition; live in your higher being. When this can be kept up continuously so that it becomes your life, habitual to you, then the time approaches when you will become a man made perfect, a glorious buddha. You will manifest the immanent christ within you, you will imbody it. There is the spiritual physiology of the whole matter.

The pineal gland was in earliest mankind an exterior organ of physical vision, and of spiritual and psychic sight. But due to the evolutionary course that the human frame followed, as time passed on and our present two optics began to show themselves, the pineal gland or the "third eye," the "Eye of Śiva," the "Eye of Dangma," began to recede within the skull, which latter finally covered it with bone and hair. It then lost its function as an organ of *physical* vision, but has never ceased to continue its functions even now as an organ of spiritual sight and insight. When a man has a hunch, the pineal gland is commencing to vibrate gently. When a man has an intuition, or an inspiration, or a sudden flash of understanding, the pineal gland is beginning to vibrate still more strongly, albeit softly, gently. It functions still, and can be cultivated to function more, if we believe in ourselves and in our innate spiritual power.

As a matter of fact the pineal gland is connected with what will in time come to be our seventh sense. There are, according to the ancient wisdom, two more senses to be developed, making seven in all. It is a difficult thing to describe just what these senses will be, because as they are not yet existent and working in and through us as manifested activities, we have no names for these virtually nonexistent powers. The sixth sense might be described as psychic or psycho-spiritual sensitivity; just as touch is sensitivity of the skin. This psychic sensitivity does not mean knowing what everyone is thinking. It means impressionability, being subject to psychic impressions of many and various kinds, a sense therefore which can be very valuable, but likewise very treacherous and clothed with peril unless we be eternally on guard.

I think it is due to the infinite kindness of the gods above us that the sixth sense has not yet been developed. It is coming even now slowly into activity, very feebly as yet, but beginning to show itself; and this accounts for the large number of so-called psychics in the world, who are often unsteady people. If that sense were to come to us now *in its fullness*, it would be a gift such as that given to Hercules. It might burn us to death like the robe of the centaur Nessus. We are not yet sufficiently developed ethically to carry a sense like that with safety to our sanity, to our health, and highest of all, to our duty to our fellow human beings.

The seventh sense I would call the development of interior, instant, spiritual cognition, intuition, as far as it can be developed in us human beings in this round on this globe. Its organ, the Eye of Śiva or "third eye," should more correctly be called the "first eye," because it preceded the other two, and should not be spoken of as though it came in as a lame and limping third. It is, as said, even today partially functional, but it has very hard going, mainly due to the work of the two eyes which overcame it. As time passes the two eyes will grow slowly more perfect in function, but will recede in importance; and the "first eye" will come again into its own. It did function in other rounds, during the third and even the second, weakly during the first; because during the first round the monads which we call egos now were then spiritual and semi-spiritual beings, as it were in a samādhic condition on this plane, practically unconscious; but — strange paradox because of the functioning of this direct consciousness from within in those earliest beings, they had thoughts which embraced infinitude, with scarcely any exterior consciousness of the outside world. This same condition of the first round was repeated in the first race of this fourth round.

It is this Eye of Śiva which will function again one day as the organ of our seventh and highest sense. And when that time comes to pass it will unite in function with the heart; and when these two unite their fluids and energies, we have a perfected man.

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Chapter 14

Lost Pages of Evolutionary History

It is the teaching of theosophy that evolution — or the unfolding, unwrapping, self-expressing, progressive growth of an entity proceeds in cycles both large and small. Each great cycle or tidal wave of life which sweeps over our earth lasts on this planet Terra for scores of millions of years; and each such globe-round, as we call such a tidal wave of manifestation, during the course of its activity gives new birth to numerous great stocks of beings, ranging from elemental beings to those quasi-divine entities beyond mankind.

Some of these stocks or kingdoms of nature below man are well known to everyone: the beast or animal kingdom, the vegetable kingdom, the mineral kingdom. Below these are the three kingdoms of the elementals. These last kingdoms, those of the three classes of elemental beings, modern knowledge knows nothing of except in this respect, that it recognizes certain forces in nature. These three elemental kingdoms are the channels through which these natural forces pour into our earth and work in it and on and through it and hold its component parts together, being, as it were, the vital cement or energies of coherence which bind together the hosts and multitudes of hosts of the conscious and semi-conscious beings composing our earth. These are the elementals.

There are likewise three other kingdoms of entities far more progressed than man is, which are above him in the scale of evolutionary advancement. These three superior kingdoms are the *dhyāni-chohanic*. They consist of spiritual beings who were all once, in far past ages, men also as we now are. They had passed through humanity to attain their present stage or status of dhyāni-chohanhood. And it is the destiny of humans similarly to follow this same path of upward progress, the destiny of every individual of the human stock — if it prevail over the downpulling forces of matter along its evolutionary pathway upwards — in the future to become itself a member of these three nobler stocks above mankind.

The ancients called these three stocks superior to man, gods. In modern times, I suppose, they would be called spirits; not excarnate human entities to whom the noble term "spirit" is often grossly misapplied. But they are truly developed spiritual entities which we call monads.

These three kingdoms higher than man, which he is destined to join in future time, form the three stages of progress preceding other still more advanced hierarchies of beings, all evolving, all on the upward march, all ascending higher and still higher, illimitably in eternal duration — both in the past as it will be in the future — and finding their ineffably beautiful destiny in the boundless fields of spiritual space.

Each of these great stocks of beings produces entities of its own kind, of its own capacities, each one having its own inherent drive or urge or tendencies. Each stock, in other words, has its own individuality, just as man has, or an animal, or a tree, or a flower, or any other stock.

Here we shall discuss that great stock which we call the human kingdom. First it should be understood that the origin of man, according to theosophy, was not what most scientists are accustomed to call monogenetic, that is, the origination of man from a single point of departure. The archaic wisdom-tradition does not teach of a primitive Garden of Eden, or of a single couple, an Adam and Eve who gave birth to the human race. This old Biblical mythos was symbolic, as the Qabbalistic Jews well knew, and should not be taken in its surface meaning or in its literal construction. Man's origin was not monogenetic but polygenetic or, to be more accurate, a modified polygenesis; that is to say, the various stocks which form the human race as an entity did not derive from one couple, but arose from several contemporaneous zoologic centers or points of departure, from groups living on different zones of the earth's surface, aeons and aeons and aeons ago in the far bygone geologic past.

As nearly as we can give dates (due to the imperfection and uncertainty of interpretation of the geologic record) by studying the story of the rocks we may put back the origins of humankind into the so-called Paleozoic or Primary era of geology. (Again, we are here using H. P. Blavatsky's time scale of geologic eras based on 1888 estimates [see Chapter 4, Note 1, and Appendix 1]). And this first race, this primordial race, composed of a number of subordinate individual strains, produced the various stocks which have descended even to our own day, albeit more or less mixed. (1)

During all those long periods of development, which run back for scores of millions of years into the past, in the present globeround the human stock necessarily passed through many varying forms, retaining, however, even from the beginning of true humans, the general type-plan of the human frame, yet varying greatly as it progressed and evolved towards a wider perfection with the passage of time down to our own day.

The evolutionary history of man is characterized by the development of what are called in theosophy *root-races*. The rootraces preceding our own were four in number. We are the fifth; and each of these root- or stock-races had its own physical characteristics or specific features.

The first of these great races which appeared on our earth during the present globe-round was in its beginning a race of astral entities, ethereal, invisible they would be to us in our present state of gross materiality.

This first great race was sexless, and propagated itself by fission; that is to say, it divided into two, each such fission producing a new individual. Consequently the daughter of such a fission was likewise the sister of its mother. That first great stock-race lasted for millions of years.

As time passed, and as the cycling race circled downwards farther into matter, seeking self-expression in the material world, this first root-race grew more solid, but it remained ethereal even to its end. It had no human shape such as we now understand it. Each of the individuals composing it was an ovoid body of light, luminous, pellucid, translucent. These individuals had neither organs nor bones.

Have you ever considered the gelatinous structure of the jellyfish, a medusa for instance? It may be to you perhaps a hint of something still more ethereal, still more luminous and translucent, than it. Life builds houses for itself of many forms and kinds, nor are bones and organs necessary for the templing of the vital entity.

When millions of years had passed, the second root-race came into being. This second race was less ethereal than its predecessor, for the races following each other in time grew constantly more material, more solid, more opaque, down to the fourth root-race.

The second root-race was asexual and reproduced itself by a method which is still represented on earth among some of the lower creatures, that is by "budding" or gemmation. From a particular part of the individual a small portion of the parent entity broke off and left its parent body — the mother, if you can use the term "mother" of an individual which had no sex at all. The offspring or bud left it somewhat as a spore will leave a plant, or as an acorn leaves the oak, this bud or small portion of the parent entity growing into an individual in all respects like to the parent from which it had separated itself.

Even as the individuals of the first race had separated off from themselves a large portion of their body — which was that race's method of reproduction, as said — this large portion growing to the size of its parent and duplicating it in all ways, so the second race reproduced itself by what zoology and botany call budding. A swelling appeared on the superficial or outer surface of the body of one of these entities; this swelling grew in size, and as it grew became constricted near the point of junction with the parent body, until at length the bond of union became a mere filament which finally broke, thus freeing the bud, which then grew into another entity in all ways like its parent.

The second race was more material in physical structure, and more humanoid in appearance, than was the first, but it still was more or less translucent, although growing more opaque because more dense with the passage of every one hundred thousand years of its long life cycle, which comprised many millions of years.

Towards the end of this second great stock-race, which by that time had become still more viscidly gelatinous and filamentoid in structure (although it was as yet more or less ovoid in form), this race even then began to show some vague approximation in shape to the present human form. Its filamentoid structure likewise covered and guarded deeply seated nuclei within it, which were condensations of the general cell substance, and destined to develop in the next race into the various organs of the body. When this race had run its course, lasting for many millions of years, then the third stock-race came into existence, still more physical than were the first and the second, and constantly thickening, the gelatinous substance of the second race having become flesh, but flesh more delicate, thin, and fine even than our own of the present fifth race.

Let me add here also that, like the first race, the second had neither bones nor flesh (therefore no skeleton), nor organs (therefore no physiological functions of any kind). Its circulations, such as they were, and they did exist, were carried on by what may be called osmosis combined with magnetic attractions and repulsions — for lack of better words to express the process working in this fashion in the body-substance.

With the incoming of the third stock-race, the filamentoid structure thickened or condensed itself, and became the different parts of what is now the human body: the muscular system, the reticulum or network of the nervous system, and also the system of the blood vessels. The inner filamentoid parts, becoming cartilaginous as the third race traveled along its cyclic period, finally became bones; while the nuclei, which existed in the bodystructure of the second race as merely adumbrated or foreshadowed organs, became now the true organs of the body of the third race, such as the heart, the lungs, the brain, the liver, the spleen, and so forth.

The method of reproduction of this third root-race was in its beginning androgynous or double-sexed; but about the middle period of this great third stock-race, hermaphroditism died out, and our present method of reproduction ensued.

As regards the question of hermaphroditism or androgynism, it is already an established fact in physical science that the same condition exists in some of the lower classes of animate entities now on earth. Practically all antiquity taught it as a fact that early man must have been bisexual, if for no other reason than because of the rudiments of organs which even present-day human beings possess — rudiments of organs in the one sex which are more or less fully developed in the opposite sex, and vice versa.(2) Those very ancient human individuals reproduced themselves by laying eggs. The human germ cell even today is an egg, albeit microscopic. But in those days these eggs, in which the infants incubated and from which they finally issued, were of much larger size than is the case today.

To recapitulate: mankind first reproduced itself by fission in the first race; then by budding in the second race; then, in the beginning of the third race reproduction was insured by an exudation of vital cells, issuing from the superficial parts of the body, and which, collecting together, formed huge ovoid aggregates or eggs. This method of reproduction is alluded to in the archaic teachings by the term "sweat-born," meaning not that this race reproduced itself by sweat literally, but by an exudation of vital substance or cells which issued from the body in somewhat the same fashion that sweat issues from the sudoriferous glands, or as the oily substance of the skin and hair issues from the sebaceous glands.

As time passed and the condensation of the bodies of the individuals of the third root-race became greater and more pronounced, this exudation of vital cells slowly passed from the outward or superficial parts of the body into the inner parts, becoming localized in certain organs which the process of evolution had been slowly forming for that purpose.

This method of reproduction in its general line is nature's way even today in our own fifth race, only it now takes place within the protecting wall of solid flesh and hard bone, which wall nature has built about the reproductive functions of our race for its greater safety. But essentially the procedure is exactly the same as it was in the early middle of the third root-race.

As time went by, during the life cycle of this third race, reproduction by egg laying by the parent died out or passed away, as a method of propagation. Whereas formerly the drops of vital fluid were exuded from nearly all parts of the body, as was the case at the end of the second root-race, more and more as time passed they localized themselves in a functional part of the organism which was the root of the later reproductive organs. These vital drops collected together and became the egg in which the human infant incubated for a few years, and finally issued from it, and began life safely, walking and moving even from the opening of the shell, much as a chick does today among us — a still living example of the old method.

Such was the method of reproduction in the third root-race at about the midpoint of its evolutionary course.

Another point of interest that I might mention in passing is that each of these root-races had its own continental system and islands on the face of the earth, had its own long-enduring cycle of life, and likewise its own physical appearance, albeit all of them, beginning with the third, possessed the general type of the human frame even as we now know it, and of which each later race became a more perfect expression.

Then at the end of the third race, there followed the great stockrace which we call the fourth, which was the most material of all in its physical development — that race in which matter reached its climax of evolution, its highest point of unfolding. All the powers of matter were then functioning in every direction, but spirit was correspondingly in obscuration. This fourth race lived its millions of years and produced some of the most brilliant civilizations of a purely material character that this globe has seen. Finally it passed away in its turn, giving birth to the fifth root-race: to us, who are still men of flesh and bones and organs, still retaining the old method of reproduction, which nevertheless is destined to pass away in its turn, giving place to a newer and a higher method. For sex is but a passing phase, and the next great race will see its end.

Towards the middle of the third race there occurred the most marvelous and epoch-making event in the history of humanity; and this was the infilling of the unself-conscious humanity with mind and its godlike powers. It was then that began the opening acts of the human drama which we call civilization; and in those remote days, even as early as the end of the third race, civilizations of real brilliancy succeeded each other in time, and have so lasted down to our own period.

The first race, though physically conscious, was yet mindless in a sense, that is to say not self-conscious as we understand selfconsciousness. Its consciousness was somewhat of the nature of a man in a deep daze or a profound daydream. The individuals of that race had, as yet, no mental or intellectual or spiritual selfconsciousness. Similarly was it with the second race.

The animals today have no mental self-consciousness. All spiritual, intellectual, or psychological faculties that human beings possess are latent in the animals, but in them they are still nonfunctioning. In man only, at the present time, has the godlike function of self-conscious thought been awakened. That awakening will come to the animals below man; but because the door into the human kingdom has been closed for many ages, this awakening by them to human consciousness can come no longer in this period of planetary evolution. The animals will attain to it only in the next planetary manvantara or evolutionary great cycle, hundreds and hundreds of millions of years hence.

Nevertheless in a few of the higher animals, that is to say in the anthropoid apes, the divine powers of self-conscious thought are beginning to function in very minor degree. The reason is that the anthropoid apes are an exception in the evolutionary development of the stocks below man, in that they have a strain of human blood in them, which like everything else is inevitably destined to work out its own inherent capacities. Their minds are dormant, but it is hoped that the monads now indwelling in the bodies of these apes will have developed a true human albeit imperfect psychological apparatus of self-expression, i.e., of selfconsciousness, before the present planetary manvantara or great planetary evolutionary cycle is completed.

Please bear in mind, however, that when we call man of the first and second great races a mindless being, we do not mean that he was an animal. We mean only that the latent mind had not yet been aroused to function, through the partial incarnation in the waiting human individuals of godlike beings perfected in a preceding evolutionary period, billions of years before the present. The man of that early period, though mindless, possessed consciousness of a kind; he was, as said, in a sense like a man in a daze or in a daydream, deep, complete.

As I have said, towards the middle of the third race there occurred the awakening of mind; and this happened very largely by the incarnation in these now ready human vehicles of godlike beings, who had run their race and had attained quasi-divinity in far past preceding planetary periods of cyclic evolution. These godlike beings projected, by hypostasis, sparks, as it were, of their own full self-consciousness into the childlike humanity of that time, thus awakening also the latent native mental powers that had lain dormant or sleeping in the recipient humanity.

Whence came mind? Have you ever thought of it, of its wondrous mystery, of its power, of its illimitable possibilities, of its inherent connection with self-consciousness? Does any sane man really believe that self-conscious mind comes from what the old school of materialists called dead, unvitalized, unimpulsed, unurged matter alone?

Very few of the thinking men of today have no conception of some kind or other of the nature of self-conscious mind. The conception may be perhaps vague and inchoate; but it does represent some striving towards a rational and satisfying explanation of this most wonderous part of the constitution of man. Their longing to reach some explanation of what is to them the problem — whence came mind and consciousness? — must in the very nature of things find an answer, because that longing is an intuition of reality.

With this coming of mind through the incarnation of these godlike beings into the intellectually senseless human vehicles of the middle third root-race, came likewise the main characteristic of self-conscious intelligence which is, briefly, the steadily growing sense of moral and intellectual responsibility. It was at this point of the incarnation of the "Sons of Mind" or *mānasaputras*, to use the Sanskrit term, that man first became on this earth the truly self-conscious, morally responsible being he now is, although indeed, it is of course true that mankind has evolved since that now far-distant epoch of the past.

Because of this incarnation of mind, men became conscious of their kinship not only with the hierarchies surrounding them in all nature, but they recognized their spiritual unity with the gods; and from then on they began to understand that the direction of their own future karma or destiny lay in their own hands. At first
almost instinctively, but as time passed with ever-growing selfrealization, they understood that they were thenceforth collaborators with the divinities, and the hierarchies of beings below the divinities, in the enormous cosmic labor.

What a picture such realization brought! What immense sense, thenceforth, of human dignity must have entered into their souls! For this greater sense of self-identity with the *paramātman* of the universe,(3) with the cosmic spirit, provided vistas of future evolutionary grandeur which as of now man dreams of but has not yet even intellectually fully realized.

It was to this awakened humanity of the later third root-race that were given certain teachings which have been ever since in the guardianship of great men, true seers, who have penetrated behind the veil of physical matter and who, in addition, have received a body of teaching about man and the universe that today we call the ancient wisdom. This body of teaching stems back to those archaic days when spiritual beings from other and higher planes than ours consorted with the human race of that time; and it has descended in unbroken line from teacher to teacher even to our own day.

As we reflect over the evolutionary picture which we have thus far drawn in this and in preceding chapters, we realize that man is essentially composite of heaven and earth, as the ancient saying runs; and because he is a child of the universe, part spirit, part animal, therefore is he likewise a child of destiny — of that destiny which he himself is building with every breath that he draws.

Man is a child of nature. Nature has not so much "given" him his faculties by and in which he works, as he has them de facto as being a child of nature. They are not a gift; they are not a development of something outside himself which has come to him; nor are they merely produced by man's reaction upon something else in nature. They are innate in him. *They are he himself*. They form his destiny by evolving out.

And what is this destiny that man is slowly through the ages evolving? It is contained in these two noble sayings of the Christian scriptures: Know ye not that ye are gods and that the spirit of the Divine dwelleth within you? For verily each one of you is a temple of the divinity (*John* 10:34; *1 Cor.* 3:16).

These sayings to many have become a mere phraseology, because the spiritual sense lying in the words has been forgotten. Yet they have become favorites on account of the intrinsic beauty of the imagery. When they are fully understood these sayings show the pathway to the student, so that he may truly become what they assure him he may become, and in fact *is* at the core of his being. They contain a promise of immense ethical value, as well as teaching the very essence of what evolution is; because it is man's destiny some day to become what he here is promised.

In future ages, aeons upon aeons hence, when the human race shall have run its course for this great planetary life cycle, it will have developed into full-grown divinities, gods, spiritual forces on earth. Then we shall become like those now ahead of us, the leaders and teachers of the race, and the inspirers and the invigorators of those who will then be below us as they are even now; we shall become to them the transmitter of the universal fire, the spiritual fire, the fire of pure self-consciousness, the noblest activity of the universal life.

That is what the gods are at the present time. These spiritual beings, these high messengers of the universal life and transmitters thereof to those below them, were once men in far bygone cosmic periods. Through past earnest endeavor, work and inner research, honesty and sincerity, universal love and compassion, these higher entities have allied themselves with the inner spheres along the pathway which each one of us *is*, and which they have trodden farther than we have as yet gone.

It is the higher, working with and in the lower, who stimulate and help them always, give them light, awaken them, lead them on. Thus we have even among mankind those superior ones who are our guides and helpers. They are the fine flowers of the human race, the noblest fruitage that the human race has produced; and for them we often use the Sanskrit word *mahātman* meaning "great soul," more accurately perhaps, "great self."

Such great souls are well known in the world. Nothing is so common to us as some knowledge of them. The Buddha was one; Jesus, called the Christ, was one; Śańkarāchārya of India was one; Pythagoras was one; Empedocles of Sicily was one. They were and are relatively numerous — although not all are of the same degree or grade, for they vary among themselves, even as average men do. There are the greatest; the less great; the great; then in descending scale come the good and noble men — a hierarchy of intellect and mind and heart.

The greatest of men have developed to its highest point of selfexpression the human soul, so that it has become a perfect transmitter or vehicle for the inner god. But every man has within himself the potentialities of this inner god. When Jesus said "I am the pathway and the Life," he did not refer to himself alone as that pathway. He meant that every human being likewise who strives towards and endeavors to live that cosmic life, thereby becomes the transmitter of that life and its many, many powers to those below him.

Every one of us is a potential savior of his fellows; and it is our destiny some day to become an actual savior and teacher, one who has trodden that inner pathway successfully. For each one of

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FOOTNOTES:

1. With regard to the various theories as to the origins of mankind, whether such be monogenetic or polygenetic, we quote again the eminent English anatomist, Professor Wood Jones, who writes in *The Problem of Man's Ancestry* as follows:

That all the races of mankind did not arise from one common point of departure [i.e., ancestor] is a view which has already been advocated (notably in more recent times by Klaatsch). It is one that carries high probability, and one which merits the expenditure of a great deal more patient research. — p. 41 (return to text)

2. In his Descent of Man, Charles Darwin had the following to say:

There is one other point deserving a fuller notice. It has long been known that in the vertebrate kingdom one sex bears rudiments of various accessory parts, appertaining to the reproductive system, which properly belong to the opposite sex; and it has now been ascertained that at a very early embryonic period both sexes possessed true male and female glands. Hence some remote progenitor of the whole vertebrate kingdom appears to have been hermaphrodite or androgynous. — Part I, ch. vi, p. 161 (return to text)

3. *Paramātman* (Sanskrit) "beyond ātman" or "Supreme Self." (return to text)

Appendix 1

The Antiquity of Man and the Geological Ages

By Charles J. Ryan

When we compare various modern scientific estimates of the duration of the geological eras since the first undisputed traces of life in the rocks, we are impressed by large differences of opinion. Even the new method of measurement by the study of radioactive transformation in certain rocks has limitations and cannot be entirely depended on. The geological processes are not fully understood, and enormous gaps occur in the record. Darwin himself compared it to a book in which whole chapters are missing; those that remain are imperfect; and few of the leaves are unmutilated. In regard to skeletal remains of man, the subject is highly controversial.

When H. P. Blavatsky was writing about the age of the earth in *The Secret Doctrine* (1888), she found nothing but confusion and uncertainty among scientists as to geological figures. Nevertheless, she needed a suitable framework to present theosophical teachings:

It may make our position plainer if we state at once that we use Sir C. Lyell's nomenclature for the ages and periods, and that when we talk of the Secondary and Tertiary age, of the Eocene, Miocene and Pliocene periods — this is simply to make our facts more comprehensible. Since these ages and periods have not yet been allowed fixed and determined durations, 2½ and 15 million years being assigned at different times to one and the same age (the Tertiary) — and since no two geologists and naturalists seem to agree on this point — Esoteric teachings may remain quite indifferent to whether man is shown to appear in the Secondary or the Tertiary age. — 2:693

There was one scientist, however, André Lefèvre, who in his *Philosophy: Historical and Critical* (1879) adopted an original method of interpreting the data available. Instead of trying to reach exact figures in regard to the length of the entire fossilbearing period of sedimentation from the Laurentian (Precambrian) period to the present day, or of its subdivisions, he worked out the *relative* durations of the sedimentary deposits. With this for a background, the actual duration of the eras and periods could more easily be calculated when reliable evidence was found.

Lefèvre's studies were based on the erosion of rocks and the deposition of sediments, and his conclusions stood with little modification until radioactive dating superseded. H. P. Blavatsky noticed that his estimates of the *relative* duration of the geological ages agreed fairly well with the "esoteric" information in her possession; and so by adapting this to Lefèvre's proportional scale she constructed a timetable that "harmonise[s] with the statements of Esoteric Ethnology in almost every particular," adding that "sedimentation began in *this Round* approximately over 320 million years ago" — an estimate that is less than that of modern geologists by almost half. (*The Secret Doctrine* 2:710, 715n).

A glance at the modern table alongside hers shows how greatly geologists have extended their time periods. Two reasons are given for this great extension: first, the supposedly known and constant rate of radioactive disintegration in certain minerals found in the rocks; second, the belief that biological evolution by natural selection, etc., required far more time than formerly seemed necessary or permissible.

In her table H. P. Blavatsky, following Lefèvre's arrangement,

combines the three oldest periods, the Laurentian, Cambrian and Silurian, into the Primordial era. The two latter are now placed in the Paleozoic era, and the Laurentian and older rocks are included within the preceding Precambrian era — now since subdivided into an enormously long complex of sedimentary, plutonic, and metamorphic rocks lying in tangled confusion below the Paleozoic strata, and in which forms of life are very scanty or altogether absent.

The Precambrian era was longer than all the subsequent eras combined, and covers much of the evolution of life on earlier rounds on this globe. In this respect, H. P. Blavatsky wrote that her 320,000,000 years of sedimentation, which approximates the time elapsed since the Precambrian era, refers to *this* round, for

it must be noted that even a greater time elapsed during the preparation of this globe for the Fourth Round *previous to stratification* — *SD* 2:715.

The tremendous cataclysms and the general transformations of the earth's crust that took place at the end of the third round (greater than any of the "revolutions" that have happened since) destroyed nearly all traces of the third round forms of life. A few "zoological relics" managed to survive the great disturbances and their fossils are found in the Precambrian and the earliest periods of the Paleozoic era associated with the more advanced forms which superseded them (*SD* 2:712).

THE ROUNDS AND THEIR SUBDIVISIONS

Before the "rounds" can be understood it is essential to have some idea of the entire scheme of terrestrial evolution from the standpoint of the ancient wisdom given in *The Secret Doctrine*. In a few words, the earth we see is the fourth of a sevenfold "chain" of globes which constitutes a single organism, as we may call it. The other six globes are not visible to our physical senses, but the entire group is intimately connected. The vast stream of human monads circulates seven times round the earth planetary chain during the great cycle, encompassing approximately 4.32 billion years. Planetary evolution began about 2 billion years ago, and a period of approximately 1.6 billion years is given for "the first appearance of 'Humanity' " on the planetary chain (*SD* 2:68-70). We are now in the fourth circulation or *round* of the great pilgrimage on our planet; and so this period is called the fourth round.

While on this fourth globe in the fourth round we pass through seven stages called "root-races," each lasting for millions of years. This cycle of seven root-races is technically called a "globeround," which is part of the larger "round" through all seven globes of the planetary chain (*SD* 1:160). Each root-race in its turn is subdivided into smaller septenary sections. Each succeeding root-race is shorter than its predecessor, and there is some overlapping. Great geological changes separate each root-race from its successor and only a comparatively few survivors remain to provide the seed for the next root-race.

The individualized life cycles in the rounds are associated with diversities in environment. Each round is a component part of a great serial order of evolution which may be summarized as the gradual descent of spirit into matter and the subsequent ascent. The first round, even on this globe, was highly spiritual and ethereal: the succeeding rounds are less so, until the middle of the fourth round is reached. After that axial period the process is reversed and by degrees the original state of ethereality is reassumed. A similar process takes place within each round, but on a minor scale — smaller cycles within a dominant one. The physical condition of the earth's substance is modified in a corresponding way. The amazing modern discoveries of the

nature of the atom, of its transmutations, and of the transformation of matter into energy have removed any *prima facie* objections to such a process.

In studying this subject we must remember that the word "man" is used in two distinct senses which must be clearly distinguished in order to avoid confusion. It may refer to the spiritual monad in the earlier stages of evolution before the appearance of mind, and which H. P. Blavatsky calls "the pre-human man"; or to the thinking, rational, seven-principled man of the fourth and fifth root-races in this fourth round. In Hindu philosophy the latter is called "Vaivasvata's humanity." Vaivasvata is the Hindu Noah who allegorically saved the remnant of mankind after the Deluge and established a "new order of ages" on the earth (*SD* 2:68-70, 251, 309-10).

Additional Information on the Root-Races

(See Chapter 14, "Lost Pages of Evolutionary History")

The first root-race of the fourth round was by far the longest of its seven root-races, because within it were included advanced monads from the third *round* or life-wave on this globe, called *śishţas*(1), and other forerunners, who preceded by millions of years the main aggregation of monads that formed the first rootrace properly so called.

The second root-race was not so long as the first, the third was considerably shorter, and so forth. We are now about halfway through the fifth root-race, and two-and-a-half root-races are still to come before the end of the fourth round on this globe. The fourth round contains the period of greatest materiality for the vehicles of the monad during the entire seven rounds, and during this middle round the ascent of the ladder of spiritual unfoldment begins. Although the "physical" conditions, if we may use the word, of the entire fourth round were denser than those of its predecessors, the early part of the fourth, which includes the first and second root-races and most of the third, was still quite ethereal and no material traces of man have been left for science to discover (*SD* 2:68n). The records remain, nonetheless, in the astral light, the "Earth-Memory" as G. W. Russell (Æ), the Irish poet and mystic, called it. In the fifth subrace of the third root-race, the monad began to build less ethereal embodiments for itself in preparation for the "descent of Mind," and after many long ages the physical and other characteristics of "man," as we understand the term, appeared and were gradually perfected. In the fourth root-race, the "Atlantean" man was fully physicalized, as the earth itself became hard and dense.

In regard to the dates and duration of the earlier root-races of the fourth round we are given but little information. We can, however, place the early root-races approximately side by side with the periods and dates given by H. P. Blavatsky in her geological table and reach a fairly close idea of their antiquity. From statements in *The Secret Doctrine* the first root-race on this globe began sometime in the Primary era (2:712, 715). According to the table this could be 150,000,000 years ago or even earlier. The ethereal first root-race, which did not know physical death, gradually blended with the second root-race.

It is noteworthy that there is some parallelism between the rootraces and the periods beginning with great geological, climatic, and biological changes marking the transitions between eras. This applies even to the earliest or ethereal races. At least four and possibly more have taken place, the most important being that which ushered in the fourth round (about the end of the Precambrian era). As we are only in the fifth root-race no doubt we shall experience other cataclysmic changes during the closing period of this round on this globe. We read in *The Secret Doctrine:*

As land needs rest and renovation, new forces, and a change for its soil, so does water. Thence arises a periodical redistribution of land and water, change of climates, etc., all brought on by geological revolution, and ending in a final change in the axis. — 2:726

The exact duration of the rounds or the root-races has never been given out; but there is no doubt of the actuality of the serial events or cyclic repetitions and of the order in which they occur, irrespective of the number of years that may be assigned to them.

Nothing definite either is revealed about the chronology of the four earlier *sub*races of the third root-race, but figures are given for the time elapsed since we reached its fifth subrace: about 18,618,000 years (SD 1:150n, 2:69). This period is called by H. P. Blavatsky that of "our humanity" because the characteristics of mankind as we understand it — physically, emotionally and mentally — showed their first indications in the fifth subrace. This period is the age of Vaivasvata's humanity, as already mentioned.(2) We have, however, so greatly changed since the monad emerged from the shadowy ethereal vestures or vehicles of "pre-human man" that

that which Science — recognizing *only physical man* — has a right to regard as the *prehuman* period, may be conceded to have extended from the First Race down to the first half of the Atlantean [Fourth] race, since it is only then that man became the "complete *organic* being he is now." And this would make *Adamic* man no older than a few million of years. — Ibid. 2:315

As they grew more and more physical, the human embodiments of the monad or immortal spirit in man in the latest period of the third root-race gradually became illuminated with the light of mind, the mānasic principle, which really marks the "new order" of Vaivasvata's humanity. The separation of nascent mankind into two distinct sexes took place just prior to that. H. P. Blavatsky illustrates the transformation which changed the ethereal man into the physical by likening it to the materialization of "spirits" in the séance room from invisible astral substance to physical. At our present period of evolution the process is abnormal and very rare; but in the distant future the astral form now well hidden within man will be the outer body as it was in the early subraces (*SD* 2:174, 737). On page 149 she makes the following significant remark:

The whole issue of the quarrel between the profane and the esoteric sciences depends upon the belief in, and demonstration of, the existence of an astral body within the physical, the former independent of the latter.

Although Vaivasvata's humanity — our humanity — has existed for some 18-19,000,000 years, and for less than half that time we have been complete organic beings, by the time we attain the seventh root-race of this fourth round, in the far distant future, our flesh will have become much more refined and almost translucent. Near the close of the manvantara or great life-period of planetary evolution in the seventh round we shall have risen so far above this lower cosmic plane in which our earth now functions that our highly ethereal bodies "will become selfluminous forms of light."

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FOOTNOTES:

1. A Sanskrit word meaning "remainders," those left behind to

serve as "seeds of life" for the returning life-wave in the succeeding round. (return to text))

2. See The Secret Doctrine 2:69, 197, and 312-13, which last says:

The History of the Races begins at the separation of the Sexes, . . . and the subsequent sub-races of the Third Root-Race appeared as an entirely new race *physiologically*. It is this "destruction" which is called allegorically the great "Vaivasvata Manu Deluge," when the account shows Vaivasvata Manu (or "Humanity") remaining alone on Earth in the Ark of Salvation towed by Vishnu in the shape of a monstrous fish, and the Seven Rishis "with him." The allegory is very plain: —

"... As to the Seven Rishis in the Ark, they symbolised the seven principles, which became complete in man only after he had separated, and become a *human*, and no longer a divine creature." (return to text)

Appendix 2

Theosophy and the New Science

By Blair A. Moffett

The Nature of Matter Evolution and Darwinism Simians Stem from Man, A Far Older Line The Hominidae are Polygenetic The Mystery of the Human Brain The Contribution of Alfred Russel Wallace Some Discoveries of the New Biology Modern Science is Becoming Philosophy

The facts about man and cosmos enunciated by the ancient wisdom will stand, because they are derived from a matured vision not alone of the realm of physical matter and its transformations, but of the totality of being in all its multiple aspects and planes. Today scientists limit themselves largely to a method of inductive investigation, applied almost wholly to the phenomena of the physical universe. In the life sciences, research is concerned principally with our physical earth, considered as a single plane or sphere of life. The theosophist has an advantage in that he employs deductive thought to proceed from time-tested universals down to particulars and then, by reasoning from the known to the unknown, applies inductive analysis to test the axioms of theosophy by going from particulars back to universals.

The expectation is, however, that the findings of physical science, as these accrue over time, will corroborate and even verify elements of the more universal statements of theosophy, particularly those that concern earth-plane phenomena. And such has been the case, in abundance, since the late 1920s when Dr. G. de Purucker first presented the lectures that were later edited for this book. We now have a New Science — a New Physics, a New Biology, a New Astronomy, etc. — and there are fewer basic quarrels between theosophy and this new science. Unhappily, most scientists and many theosophists are not aware that this is so. The material in this Appendix is intended to help both become more cognizant of some of the more significant convergences between the two perspectives. Both kinds of thinkers are, if openminded, fellow searchers after truth; and truth must ultimately be one, not two.

THE NATURE OF MATTER

Little need be added to Dr. de Purucker's analysis showing modern science's dematerialization of the physical universe as a result of its own findings. Several developments in nuclear physics since the 1920s and '30s have more than confirmed the essential statements of theosophy regarding "matter." So illusive has the matter of science become that physicists now state that an electron is neither a particle nor a wave, "but an entity that defies every attempt at pictorial description."(1) The electron, or any other so-called material particle, can be studied solely by giving up the quest for a unified description of all of its properties and confining attention to a restricted range of experience. Only then can its behavior be understood as either a corpuscle or a wave, depending on how the boundaries of the field of interest are defined.

It is no longer legitimate to ascribe to such elementary particles the substantiality of pellets of matter: they are nonmaterial structures, and in a very true sense the new physics has become *meta*physics because it deals with factors beyond visibility and seemingly beyond natural law, factors that can be coped with experimentally only by a statistical law. This is the famous "Principle of Indeterminacy," so named in 1927 by its formulator, the great German theoretical physicist, Werner Heisenberg. Individual particles in their motions and actions are found to exhibit an element of unpredictability — a kind of free will or choice-making — so that even though they may be of the same kind or class, all do not do the same things. As a result, in atomic and subatomic phenomena strict causality, as this has been understood in classical physics, cannot really be applied. Predictability and determinism break down. (2)

So malleable and uncertain has the material aspect of the universe become in the vision of modern physicists that as recently as 1971 a book was published, titled The Search for a Theory of Matter (3), which honestly acknowledges the inability of the new physics to devise a theory able to explain the phenomena it studies. We are indeed witnessing a revolution in science's view of the physical universe, one that has not yet reached its full course nor come anywhere near its destination. But the course has begun, and contemporary findings continue to shatter classical notions about the universe. Astrophysicists, for example, now realize that an evolution of the elements occurs within suns, beginning with the transformation or transmutation of hydrogen into helium, the next heavier element of matter; but they don't fully understand how this happens. In all the stars, processes are going on which build up the atoms one by one into more and more complex elements or material structures. Thus, as Jacob Bronowski put it: "Matter itself evolves. The word comes from Darwin and biology, but it is the word that changed physics in my lifetime." (4) That is a remarkable statement, reflecting as it does a dawning recognition by physical scientists of a definite evolutionary course in material substance. On the physical plane this very much resembles the more recondite process of emanation of substances and forces from inner or more ethereal and spiritual planes downward and outward to other, more material planes, as explained herein by Dr. de Purucker. The

words of Bronowski epitomize perfectly how differently the new science views the universe, which in the 19th century was seen as simply a vast material machine in which every product was predetermined.

A good example is our sun, until recently regarded by science as a steady, well-ordered machine about which there remained little to be learned except the nature of the nuclear reactions believed to be going on in its heart. Now astrophysicists have been forced to rethink long-held theories about how the sun works. In 1974 Dr. Henry Hill of the University of Arizona, Tucson, trying to determine precisely the diameter of the sun, discovered that it is vibrating. Its limb or edge oscillates back and forth about every sixty minutes over a distance of about twenty kilometers. It is in fact breathing in and out in a natural vibration at various frequencies, a phenomenon that has been compared to the ringing of a bell.

Studies of the oscillating sun carried out at Birmingham University, England, suggest that the sun may be much less dense at its center than had been thought, and have only half the temperature assumed by current models: 7 instead of 15 million degrees. Many scientists do not believe such a low-temperature sun to be possible. Even the certainty of the eleven-year sunspot cycle has been upset. Carrying forward researches of the 19th century astronomers Gustav Sporer and E. W. Maunder, Dr. John Eddy of the High Altitude Observatory in Boulder, Colorado, found that between 1650 and 1715 cE, the sunspot cycle had disappeared. (5) Because our sun is a star, these findings have major implications for the study of any and all stars in the physical universe. Many other examples might be given, and we shall have more to say later on about contemporary scientific thought as *philosophy*.

EVOLUTION AND DARWINISM

Turning now to the idea of evolution itself, we find this is regarded by most people as a process restricted to animate life forms and generally equated with Darwinism and neo-Darwinism. But "Darwinism" strictly speaking should more properly be used to mean Darwin's theory of the *factors* of evolution. There were many evolutionists before Darwin, some of whom also propounded theories about the constituents at work in the evolutionary process. Just which factors really apply in animate evolution is, however, a still-moot question for modern science. It happened that Darwin and his fellow worker, Alfred Russel Wallace, thought out a coherent theory about certain factors which at the time appeared to fit the known facts so well that their hypothesis won the conviction of a large body of naturalists. The essence of Darwin's theory is in the two words variation and selection, and not all the agents he believed produced those results are accepted as the full explanation today. As Dr. de Purucker points out, no thinking person denies that a process of evolution takes place on earth; the debate has to do with the causes and the mechanisms. Very soon after their joint presentation of the theory, Wallace found he could not agree with some of Darwin's conclusions. He published several studies of his own which emphasized that Darwin's ideas were especially inapplicable in the case of man — and that other factors, particularly man's unique brain, became operative. In brief, Wallace contended that natural selection could have acted on man's body in any marked degree only before man acquired the intellectual capacities — the self-conscious awareness — which make him truly man. After that, this self-awareness became the principal and overriding determinant in his evolution, making him unique among all of earth's animate life forms. We shall discuss some of Wallace's arguments in more detail later.

With regard to *variation*, Darwin's teaching that acquired characters can be inherited had been disproved by biologists' studies and tests long before the 1950s. The findings of the new biology, well attested by all the available evidence, is that while a gene can make a protein, and a mutant gene a modified protein, the character of a protein cannot be communicated back to the genes. Genetics at a molecular level is a one-way street. Effects of the environment which alter the outward character of the animate life form cannot alter that organism's genes in any coherent way, as proposed by Darwin. Nevertheless, biologists recognize that a reciprocal influence between life forms and their environments takes place, but they admit their ignorance of the causes or exactly how the interaction works.

For want of any better theory most biologists still rely largely on Darwin's factor of natural selection as a broad description of the process of evolutionary change, some also continuing to maintain that it *explains* changes that arise in animate life forms. But in the late 1960s one school of evolutionary theory (Neutral Theory), led by Japanese molecular biologist Motoo Kimura, challenged the idea that natural selection offers any explanation at all of evolutionary change at the molecular level, because experimental results failed to show that a process of such selection could have any preference for this or that version of a molecule. Since then, many molecular biologists have in fact begun to take it for granted that natural selection does not always apply. (6)

Mutations, which produce visible changes in life forms, arise in genes. Environmental factors appear to be responsible for some mutations, but there is no inclusive explanation for what causes change to arise in the DNA material. Having pursued to the atomic and molecular level the quest for the source and mechanisms of animation or "life," biologists find themselves reduced to chemical descriptions. They are back to a "random factor" — evolution governed by "chance," mutations which arise "spontaneously" — and most will acknowledge that these words, when applied to the phenomena they study, signify no more than that their actual *causes* remain unknown.

What this means in simple terms is that many if not all of the settled notions about the key factors affecting animate evolution, derived from Darwinism, are again at issue as a result of the new biology's observations and experiments. Thus a series of imposed theoretical conceptions, that long dominated all consideration of those things which make man what he is, have been cleared away. This could result in some measure of serious attention being given to those inner and spiritual factors *behind* the evolutionary phenomena — especially of human beings — pointed to in this book.

SIMIANS STEM FROM MAN, A FAR OLDER LINE

This leads up to the theosophical teaching that man is the *originant* of the simian stocks, rather than the reverse; that man's origin was not monogenetic but took place through a modified polygenesis; and that man as a thinking being is far older than modern anthropology has thus far allowed him to be. Since Dr. de Purucker's book was issued, archaeology and anthropology have brought to light a wealth of new information on prehistoric man and anthropoid. Much of it upholds the theosophical material he discussed and helps to restore man to man — no animal, but a higher being poised between the animals and the gods, unlike any other on the face of the earth.

Modern anthropology, however, takes no account of man's spiritual ancestry nor of his ethereal beginnings on this globe in this round as the *originant* of all mammalian stocks, as discussed by Dr. de Purucker. Not all anthropologists are even in agreement as to which fossil forms of primates fall definitely within the family of the Hominidae. This Appendix uses the term Hominidae, or hominids, for all of the forms man's *biological* ancestors have assumed here on earth — i.e., for the family of forms, both living and fossil, which are strictly human — as opposed to the Pongidae, the primate family composed of the tailless anthropoid apes which resemble man anatomically: gibbon, gorilla, orangutan, and chimpanzee, and *their* ancestors. Such a usage has the advantage that it accords with the theosophical perspective of the primacy of the human line both biologically and spiritually with respect to the mammals. (7)

Several years ago the respected contemporary Finnish anthropologist, Björn Kurtén, affirmed that the evidence of primate fossils themselves (in contrast with any theory) points unmistakably to the fact that man never descended from apes, but that it would be more correct to say that apes and monkeys descended from early ancestors of man (cf. his book, Not from the Apes, Pantheon Books, Random House, New York, 1972). Like Drs. de Purucker, Frederick Wood Jones, and others, this scientist maintains that in all the traits under comparative examination, man is the primitive while apes and monkeys are the specialized form. Space does not permit anything like a full recapitulation of Dr. Kurtén's extensive, detailed anatomical comparisons in support of this thesis. Years of study have shown him that in all cases where sufficient fossil material is available to enable inspection of key skeletal features, there is no mistaking a hominid or early human form for a simian form. Dr. Kurtén observes that as far back as the earliest Australopithecines, which have been dated at some 4 to 6 millions of years before the present (8), the anatomical evidence confirms an upright posture for man. This is not the case for the simians, whether fossil or living, no ape being a biped in the sense that man is. He considers it most unlikely that any human ancestor ever walked on all fours in ape-fashion, or knuckle-walked as do African chimpanzees and gorillas. The fossil record of the many specializations which all living apes exhibit (compared with man's unspecialized structure) shows these to have arisen independently.

Dr. Kurtén sums up his cogent analysis of the meaning of the fossil record by concluding that "the most logical answer suggested by the fossil evidence is this: hominids are not descended from apes, but apes may be descended from hominids" (op. cit., p. 42). His conclusion, based examination of "hard" evidence, closely parallels, as far as it goes, the theosophical view. Theosophy, or the ancient wisdom, avers that thinking, physical man as a distinct type has been in existence on earth for almost 19 million years. It is important, however, that such statements be properly understood when applying them to the anthropological record we are here considering. Theosophy does not say that all hominids gained self-consciousness at precisely the same period in far-past time. The process of lighting the fires of mind in man, which began between 18-19 million years ago among the karmically ready stocks, undoubtedly went on for millions of years thereafter for the less-ready, and cannot really be said to have utterly ceased until the "door" into the human kingdom was "closed" by nature at the midpoint of the fourth root-race, said to have been reached around 8 or 9 million years ago. Thus, a really enormous latitude is allowed for individual variation in development of the human mind and its physical focus — the brain — within the whole of the Hominidae, or *family* of man: that is to say, among its different genera.

What significance has all this for our discussion? First, the farther back we go, the fossil record shows no evidence of any tendency for hominid forms to display apelike characters, while, on the other hand, some exceedingly ancient fossil ape-forms are found turning up with certain *hominid*-like anatomical characters. How can this be explained? It is certainly susceptible of an explanation under the theosophical view of the origin and evolution of the simians: (a) that the monkeys arose from fruitful unions between a "mindless" or unself-conscious hominid stock and a high animal stock — which we can tentatively date at some 20-26 million years before the present; and (b) that the anthropoids resulted some 8 or 9 million years ago from fruitful unions of a degenerate human stock with descendants of the earlier miscegenations, quasi-animal stocks of types that have since died out. (Cf. The Secret Doctrine 2:184, 191-2, 689; see also ch. 4 in the present volume.) In far past geological times both these simian stocks, says Dr. de Purucker, resembled their respective human halfparents in much fuller measure than do their present-day descendants, the living monkeys and apes. The earlier stocks were much nearer in time to the dominant human influence taking its rise within their heredity. The living simians show the effects of specialization away from that influence over the intervening millions of years. This may be seen in the embryos as well as in the infant members of present-day simian stocks especially the ape stocks. Both the embryo and the infant are much more "human" in appearance than are the adults.

Moreover, contemporary anthropology does not consider the possibility that some of the earlier hominid-like fossil forms such as perhaps *Oreopithecus* and some even of the Australopithecines or other so-called near-men — may well be examples of early miscegenations which brought into existence these stocks of beings intermediate between higher animals and man. These hybrids would be outside of the true human line and, as said, have become extinct. Only their more degenerated or animal-like descendants, the apes and monkeys, continue to survive in several parts of the world and to intrigue scientists because of their faint and blurred biological resemblances to true hominids.

THE HOMINIDAE ARE POLYGENETIC

We see, then, that there is scientific data which tends to substantiate man's great age. What is of almost greater interest for our discussion is that some anthropologists are interpreting recent findings in a manner to suggest a polygenetic or polyphyletic human ancestry rather than the monogenesis of earlier theory. This new perspective, based upon study of actual fossil materials, deals so far with a period of some few millions of years only. Nevertheless it is suggestive of the far broader theosophical statement that man's first root-race — many, many millions of years B.P. — exhibited a modified polygenesis.

According to the theosophical teachings, seven human groups more accurately, "pre-human" because lacking self-conscious mind — took their contemporaneous rise in different localities on the earth. In their earliest expressions these groups closely resembled each other, yet differed "externally and internally," reflecting the seven classes or degrees of perfection of their divine progenitors, of which they were the hypostatic offspring. (SD 2:77, 249). During the latter part of the third root-race, because of the differing rates and manners in which unfolding self-consciousness made its impress upon the individual units, differentiation of form, intelligence, and spirituality among these seven human stocks became relatively accelerated. The maximum expression of such diversity among them was approached toward the close of the first half of the fourth rootrace, about 8 or 9 million years ago, when the material form reached its acme and distinctive types coexisted on the earth. (9)

Since that time, as the trend of nature downward into matter has begun to reverse itself on the upward arc, the human stocks have slowly tended to assume the same kind of form. Only four among the primitive seven stocks still remain, we are told, and as a result of intermingling even these now differ little except in some superficial particulars. Does scientific evidence harmonize with or corroborate the picture offered by theosophy? To answer this question, at least partially, we must review the explosive changes that have taken place in anthropology since 40 and even 30 years ago.

In the 1940s the evolutionary line of man's direct ancestors — i.e., of the genus Homo — was generally thought by scientists to be not more than 500,000 years old at the very most. It was held to begin with the so-called Java and Peking man, now termed Homo erectus. In 1959, largely but certainly not exclusively as a result of discoveries made in East Africa by Louis and Mary Leakey, estimates for this ancestry were moved back dramatically to about 1.6 million years B.P. Then, in 1972 their son Richard Leakey found a fossil hominid skull and thighbones remarkably like those of modern man, in deposits dated at about 2.6 million years B.P. Anthropological notions of the age of our immediate ancestors were thus extended almost another million years. In October 1975 Mary Leakey announced discovery in Laetolil, Tanzania, at a site not far from those of earlier finds, of jaws and teeth of a type of the genus *Homo* in deposits that have been assigned a firm date of some 3.75 million years B.P. A year previously, in 1974, in Ethiopia's desolate Afar Triangle area to the north of the region worked by the Leakeys, Dr. Donald C. Johanson of Case Western Reserve University unearthed a nearcomplete female hominid skeleton provisionally dated at about 3.5 million years old. Other anthropologists working in East Africa have also found fossil remains of early hominid types that have been assigned comparable ages.

In their recent epochal fieldwork in Africa, Richard Leakey and Dr. Johanson have shared their findings and ideas all along the line. One result of their work has considerable importance for the ethical perspective de Purucker's book conveys as part and parcel of its scientific information: the absolute need of practical brotherhood among all men if we are to accomplish our evolutionary journey. Speaking at Pasadena City College in the spring of 1975, Richard Leakey presented film clips of life and work among the present native inhabitants along the shores of Lake Turkana (formerly Lake Rudolf) in East Africa. The films demonstrated how those people have learned to share among the whole community, without individual rivalry, what the surroundings offer for their survival.

Leakey then emphasized that his study of prehistoric men has shown that they too must have lived together cooperatively, in a manner completely at variance with that of the "aggressive savage," as our forebears are so often stereotyped nowadays in some popularized anthropological books. The "stones and bones" of men more than a million years old, he said, have convinced him that within their own ecosystem early men must have displayed as much intelligence and as full a sense of human solidarity and compassion as do some modern men within their ecosystems which, though more highly structured and complex in material gadgetry, are not so different in terms of essential needs and interests. In other words, the need for brotherhood as a central force was just as vital for successful human evolution millions of years ago as it is today; and further, that we modern Homo sapiens — owe our existence not to our ancestors' "naked ape" aggressiveness but rather to their ability to cooperate.

Just a year later, in the spring of 1976, Dr. Johanson and his team announced discovery in the Afar Valley of about 150 bones from a group of two children and three to five adults, all of whom were found together and are thought to have been killed in a flash flood or similar catastrophe. This is the first time that a group of fossilized individuals closely related genetically has been found, and Dr. Johanson believes they can tell us much about the growth and development of their species. Johanson has classified that group as *Homo* or man, although not as advanced as *Homo erectus*, and assigned them a date of at least 3 million and probably 3.5 million years B.P. In a joint press conference sponsored by the National Geographic Society in Washington, D.C., Johanson and Richard Leakey discussed their newest finds and both emphasized that the evidence of the fossil record is that "man is innately cooperative," for prehistoric men hunted in groups and did other things together and "returned to a home base." Leakey said:

One begins to see a picture of a social unit unlike that seen in any other animal. It's not just the old bones we're interested in. It's important to know if our earliest ancestors were decent, cooperative creatures instead of killer apes. I'm sure man was a predator. But to kill, to be like us, to kill out of being nasty — there's no evidence of that at all in the fossil record. — *The Washington Post*, March 9, and *The National Observer*, March 20, 1976

The general view among anthropologists has been that human social groups were a comparatively recent development, dating back little more than 60,000 years to the time of Neanderthal man! (10)

Contemporary paleoanthropological discovery has made it clearer that several types of hominids as well as "near-men" such as *Australopithecus* — pursuing parallel but different lines of evolution must have shared the earth contemporaneously. The perspective of parallel development, accompanied by the extinction of various early stocks, does much to explain why anthropologists cannot connect all existing fossils of manlike creatures into one straight line of succession leading to modern man.

With regard to the Hominidae — the much broader category of the family of man as a whole, and not solely *Homo sapiens* or our direct and immediate ancestors — there has unfolded the equally impressive extension into past time discussed above. As recently as the late 1940s anthropologists — still searching for a common link between pongid and hominid — were of the general opinion that these began separate courses of evolution from some common ancestor, mostly thought to be *Dryopithecus*, about 6 or 7 million years ago. Furthermore, reclassification in the late 1960s of *Ramapithecus* and its coordination with related fossil evidence in other parts of the world, showed that varieties of true hominids — of types naturally less evolved than those of our own genus *Homo* — existed as long ago as 15 and possibly as much as 20 or more million years B.P.

The 3 to 4 million years currently allowed our genus *Homo* shows man to have been man, and nothing less than man, pretty much as we know him anatomically for a hitherto unsuspected antiquity. That period of time is, incidentally, just about the span of duration that modern theosophy assigns for the present or fifth root-race type of man since its earliest or *seeding* appearance as a variant or sport within and toward the middle of its parent fourth root-race. But as a race or stock exhibiting its own specific character completely distinct from that of its parent race, our fifth-race humanity is accorded an age of about one million years only. The emerging fossil record, nevertheless, appears to show that a *range* of hominid as well as near-hominid types overlapped with this early *Homo*, which itself displayed a number of differences within its own genus. In order to avoid any misunderstanding, it must be pointed out that theosophy does not say that all of these fossil types of hominids formed part of the stream of human evolution that has led directly to *Homo sapiens sapiens* or the contemporary type of man. Which of them did is, of course, highly controversial. As one reviewer recently put it, "whoever makes assertions about human ancestry enters a minefield," because of the comparatively rapid accumulation of new fossil and associated evidence, as well as the changing ideas of scientists about how human biological evolution has proceeded from prehistory into the present.

The striking transformation in anthropology is still going on. It has far from convinced all anthropologists that hominids are not derived from some true pongid or hominoid progenitor; however, it has shown that any such hypothetical divergence could have occurred only in an exceedingly remote past — an estimated 20 million or more years ago, to use a round figure. We would be making a mistake to infer from the argumentation in this Appendix that all anthropologists think alike about the wealth of fossil evidence that has been and is being amassed or even about the dates assigned it. Scientists do not hold identical theories regarding the meaning of hominid and simian fossil features, nor even agree always as to which may be hominid and which simian. Nevertheless a picture is emerging that is a great deal clearer than that which confronted the anthropologist of fifty or sixty years ago. Incomplete as it may still be — and it is imperfect - overall it supports in many respects the anthropogenesis outlined in volume 2 of H. P. Blavatsky's The Secret Doctrine. (11)

In brief, the distinction between anthropology and the ancient wisdom is mainly one of approach. The former seeks to develop a viable evolutionary theory on the basis of the physical changes that are known to have taken place in bodily forms; the latter regards man primarily as a monad of conscious energy which evolves a succession of material vehicles for the purpose of expressing ever more fully its inherent potential.

THE MYSTERY OF THE HUMAN BRAIN

In recent years increased scientific attention has been paid to a phenomenon in man that is truly remarkable if he is to be regarded as just a higher animal and nothing else. In terms of geological time and the terribly slow pace of evolutionary change and development required by Darwinian theory, the record of fossil Hominidae reveals a spectacularly sudden increase in the size of the human braincase relative to any other mammalian life form. Cranial expansion is centered largely upon the cerebrum or anterior portion of the brain which in all higher mammals overlies the rest of the brain. The human cerebrum consists of right and left hemispheres and connecting structures and is held to be the seat of the conscious mental processes, in contrast with the cerebellum or the lobes of the brain situated behind and beneath the cerebrum. The cerebellum is the seat of motor control of the body's physical movements, translating the cerebrum's general instructions into precise commands. The larger the cerebrum, generally speaking, the greater the area of cortex or surface layer of convoluted pinky-grey matter. The number of these cortical convolutions is held by science to be a kind of index in man of comparative "brain-power" or thinking capacity. The animals show no cerebral or cortical development comparable to man in terms of the so-called "associational" or "interpretive" cortex of the frontal and parietal lobes. This is the brain area assumed to be responsible for thought and selfconsciousness.

In regard to the puzzle of man's brain size, anthropologist Dr. Loren Eiseley once cited biologists M. R. A. Chance and A. P. Mead, who said that "no adequate explanation has been put forward to account for so large a cerebrum as that found in man." (12) This means, we infer, no *biological* or no *Darwinian* explanation. Dr. Eiseley then states that while all other mammalian life forms exhibit particular *physical* specializations, man has a curious specialization of his own of a more abstract and generalized type: his brain. Man's brain is more than twice as large as that of a much bigger related creature (the gorilla), and trebles in size during the first year of life outside the womb, unlike anything else we know in the world of animate life forms. Inasmuch as the human brain is the acknowledged seat and focus of man's consciousness, and it is man's consciousness which makes him what he is compared with the animals, Dr. Eiseley has here recorded the scientific complement of the time-honored axiom that man is not his body but the thinker within.

An imaginative scientist, Dr. Eiseley ponders the explosive suddenness with which man "escaped out of the eternal present of the animal world into a knowledge of past and future," and concludes that "the story of Eden is a greater allegory than man has ever guessed."

There is every reason to believe that whatever the nature of the forces involved in the production of the human brain, a long slow competition of human group with human group or race with race would not have resulted in such similar mental potentialities among all peoples everywhere. Something — some other factor — has escaped our scientific attention. — *The Immense Journey*, Random House, New York, 1946; p. 91

The theosophist recognizes that just such a process, which is termed the "descent of the mānasaputras," is indeed the "factor" which sets man apart and above his companion species on earth. Through creative spiritual acts, evolutionally older beings senior in standing to our humankind, endowed us with a portion of their own self-consciousness. In other words, the allegory of the exit of Adam and Eve from a "Garden of Eden" depicts man's transformation from unself-consciousness into self-awareness. From this ensued our realization of time and space, of past and future, as well as nature's demand that we engage in selfreflective cognition as decision makers who have assumed full responsibility for our thoughts and acts.

As a scientific analysis, Dr. Eiseley's declaration implies the recognition that at some still undefined former time there took place a primordial linkage of bright *intelligence* with bone, muscle, and nerve tissue in a manner that had never occurred before, and that dramatically and forever after revolutionized the development of our kind. He does not dogmatize, but leaves his readers to draw their own inferences from his presentation. Nevertheless, it is fair to conclude that Eiseley believes such an event or such a process is that "other factor" which has escaped attention. (13)

At this point several remarks are worth making about the findings of modern neuroscience concerning the human brain. Many brain investigators continue to believe that when matter is organized with sufficient complexity — as it is in the brain — it begins to manifest the qualities we associate with the mind. This of course is the orthodox stand of the reductionists among scientists: those who attempt to explain all biological processes by the same explanations (as by physical laws) that chemists and physicists use to interpret so-called inanimate matter.

Brain research remained slow until just the past several decades, however and, of the half-dozen or so researches regarded as foremost in this field, several think differently from their reductionist colleagues; all of them in one way or another are described as having come to a religious or mystical feeling about the nature of human consciousness as a result of their own scientific work. Sir Charles Sherrington, after a long and brilliant career studying the human brain, could say no more than that "we have to regard the relation of mind to brain as not merely unsolved, but still devoid of a basis for its very beginning." (14) Sherrington concluded that man's being consists of "two fundamental elements" — brain *and* mind — and that brain action does not explain the mind. In 1975 his outstanding pupil, Dr. Wilder Penfield, after an equally long and successful career in brain research, came out emphatically with the same view, saying:

Because it seems to me certain that it will always be quite impossible to explain the mind on the basis of neuronal action within the brain, and because it seems to me that the mind develops and matures independently throughout an individual's life as though it were a continuing element, and because a computer (which the brain is) must be programmed and operated by an agency capable of independent understanding, I am forced to choose the proposition that our being is to be explained on the basis of two fundamental elements. This, to my mind, offers the greatest likelihood of leading us to the final understanding toward which so many stalwart scientists strive. — *The Mystery of the Mind*, Princeton University Press, Princeton, 1975; p. 80

So again we see a situation resulting from intensive recent research in one branch of the new science that has brought rigorously scientific, honest researchers — some of the foremost in the field — to recognize that the forces at work in man's mind are distinct from the biological operation of his brain. An even closer approach to the theosophical perspective in this connection is found in these words of Dr. Oliver Sacks, a neuropsychologist at Albert Einstein College of Medicine in the Bronx, New York, and the author of several books about human consciousness:

The entire organism is a functional unity: thus we are not conscious with our cortex alone; we are conscious with the whole of ourselves. . . . It cannot be supposed that the origination of consciousness lies in us alone. Our consciousness is like a flame or a fountain, rising up from infinite depths. We transmit and transfigure, but are not the first cause. We are vessels or funnels for what lies beyond us. Ultimately we mirror the nature which made us. Nature achieves self-consciousness through us. — "Wraparound," December 1975; p. 5

THE CONTRIBUTION OF ALFRED RUSSEL WALLACE

For his part, Dr. Eiseley has done the cause of truth a real service by resuscitating some of the findings and conclusions of Alfred Russel Wallace, Darwin's great contemporary. It was Wallace, for example, who generously named their jointly-discovered theory "Darwinism." It was also Wallace who in 1913 protested that the Piltdown skull, later proven a hoax, did not prove much, if anything, about human evolution.

Darwin had seen in the rise of man with his unique brain only the undirected play of such natural forces as he believed had produced the rest of the living world of plants and animals. Wallace, however, early abandoned this view and asserted instead that a "higher intelligence" had directed the *human* evolutionary process. Darwinists in their search for the required missing links between man and ape were depicting living aboriginal peoples as fulfilling that role. Wallace, on the basis of many years' experience among such tribes in tropical archipelagoes, refuted the Darwinists' contention that they were mentally inferior. He asserted that, to the contrary, the aborigines' mental powers were far in excess of what they needed to engage in the simple food-gathering activities by which they survived. Employing the Darwinists' own arguments as applied to man, he asked: "How, then, was an organ developed so far beyond the needs of its possessor? Natural selection could only have endowed the savage with a brain a little superior to that of an ape, whereas he actually possesses one but little inferior to that of the average member of our learned societies." (15)

Today it is a commonplace of scientific knowledge that no race or people enjoys superior mental potential over others. In essence, Wallace argued that proof of rapid brain development would imply a spiritually-directed force at work in man. Once man's mental powers awoke, his success or failure in the evolutionary process would depend on mental and moral qualities rather than on physical factors, and he would continue with very little physical modification except insofar as the development of intellectual capacity was reflected in the shape and size of the cranium. Those stocks which did not keep up that mental and moral progress would, said Wallace, become extinct and give place to stocks that did. All this is clearly theosophical. The Darwinians won the stage, however, and Wallace's views, despite their logic and clarity, were virtually ignored by later evolutionists. Wallace had also contended, and from the same logical basis, that the closer this research came to the starting point of the human family the more varied would be the bodily structure of hominids, in conformance with the diverse effects mind or self-consciousness would produce in different units — a theory that later anthropological discovery has done much to uphold.

Certain advances in science relative to findings about the human brain need further mention here. Most contemporary

anthropologists recognize that purely biological explanations of human behavioral adaptation are inadequate. While man, like all other animate life forms, must adjust to environment, attempts to link human behavioral systems to simple geographic or even genetic factors have always failed. Scientists today often group those major factors which they find exhibited in human adaptation under the word *culture* — that is, an integrated pattern which includes thought, speech, action and artifacts, and depends upon man's capacity for learning and transmitting knowledge to succeeding generations. Man is not born with culture, but with a capacity to acquire culture. He does not, they affirm, merely react to environment: he consciously changes, transforms and modifies it. While in animals behavior is predominantly instinctual, in man it is largely a product of culture, imparted by teaching and learning, and does not reflect a fixed set of drives as is the case with the animals.

Writing in 1962, a leading geneticist, Theodosius Dobzhansky, clearly endorsed this view by saying that from very early times "man has been adapting his environments to his genes more often than his genes to his environments" (*Mankind Evolving*, Yale University Press, New Haven, 1962; p. 319). In man, biological evolution is clearly subordinate to cultural evolution; the chief determinants of human behavior are neither anatomical nor genetical as they are in animals. Therefore human behavior is a function and result of the *inner* consciousness that works largely through the brain.

Now, if we turn to modern theosophy we see that the origin of this distinctive human culture is found in the tremendous "manasaputric event" already referred to, which rapidly brought latent human consciousness forth into activity. The awakened early human stocks of the latter part of the third root-race are described as building the first cities of lava and stone, cultivating
the first crop plants, constructing the first implements and artifacts, etc. In this view, then, culture is a reflection on this earth-plane of the working of the distinctively human consciousness or monad to the degree that that consciousness has learned to manifest its creative powers. Manifestations of human creative faculties display imperfection and error, as we all know — man often harming his environment as much as or more than he helpfully modifies it, and then nature reacts upon him. Although physical science and theosophy approach this topic from different angles or standpoints, there is nevertheless a clear convergence of thought about it, regardless of methods of analysis. This convergence has been aptly epitomized in the title of the contemporary book, Man Makes Himself. (16) That study is only one example of what is a growing literature devoted to the uniqueness of human culture that may fairly be said to have begun with the writings of Wallace.

SOME DISCOVERIES OF THE NEW BIOLOGY

Remarkable advances in genetics and cell study made by the new biology have done much to substantiate Dr. de Purucker's statements that (a) what science calls the cell is an infinitesimal focus of intelligent cosmic forces pouring into physical manifestation; and (b) that there are uncounted and actually almost innumerable possibilities of development, locked up or latent potentialities, in a cell. These are all seeking expression, he said, and many have to bide their time for ages before the opportunity comes, that is, until the appropriate karmic environment or "field" furnishes them with the open door to manifest. Of course, being a physical science, the new biology has no formal conception of the invisible divine-spiritual monad directing and urging the actions of those inner and *meta*physical forces, and its evidence has to do with the chemistry of genetics at the molecular level only. But its testimony is nevertheless valid for our argument, because these findings at the physical level harmonize with and indeed reflect the implications of the broader theosophical statements. The latter encompass findings or data from several levels of being in addition to the physical. (17)

To understand the findings of the new biology we must consider what it says about vegetable, animal, and human cells — that is, cells of animate life forms, distinct from the life structures of the mineral and elemental kingdoms, the latter being a theosophical term for the classes of natural forces on earth which bind together the structures of all the planet's life forms (see ch. 14, "Lost Pages of Evolutionary History").

Every cell has the power of self-replication for the life term of the individual containing it. But sex cells are, in the words of Dobzhansky,

potentially immortal; indeed, every sex cell is able, under favorable conditions, to give rise to a new individual with another crop of sex cells. The soma is mortal; it is the body which houses the sex cells, and which is cast off in every generation owing to death. — *Evolution, Genetics, and Man,* John Wiley & Sons, New York, 1955; p. 74

After biological analysis had successfully isolated the essential chemical ingredients of DNA, Isaac Asimov wrote:

In theory, it is even possible that . . . there are polynucleotide strands that have persisted through countless generations, perhaps even from the very first appearance of life. . . . the possibility of a super-patriarch among the now-existing strands, straddling the eons since the earth was young, evokes a rather breathtaking picture of the unity and continuity of life. — *The Genetic Code*, Orion Press, New York, 1962; pp. 141-2

It is within the chromosomal DNA that is found the "genetic code": the information transmitted to every cell newly appearing in the growing life form which instructs it how to replicate. A broad conception of this genetic mechanism governing cell formation and reproduction is now known, from which emerge several facts of paramount interest for us.

First, the number of kinds of proteins — that is, the essential building blocks of animate physical life — that can be built up out of the 20-odd amino acids acting on instructions from the DNA, is for all practical purposes *unlimited*. The question, then, is not where the body finds the variety of proteins it requires, but what *controls* the possible variety and keeps it within bounds. Second, only a negligibly small fraction of all the potentially possible gene combinations in any one species is ever realized. No two persons except for identical twins carry the same genes. Every human being is a carrier of a unique, unprecedented, and probably unrepeatable gene complex! (18) The number of distinct individuals expressed by gene combinations is also for all intents and purposes *unlimited*.

Nigel Calder, in *The Life Game* (p. 135), has summarized the lessons of contemporary molecular biology in this way: (1) the uniqueness of every individual; (2) the immense possibilities genetically latent in every group of individuals; and (3) the fallacy of any notion of genetic perfection. Thus, even at the level of chemistry of animate life forms we see the findings of science affirming the principles of the ancient teaching, brought forward again in this book by Dr. de Purucker: that each entity is in essence a monad, a completely individual unit or lifeconsciousness-center, eternal as an essence. Every infinitesimal particle or point in the universe — an incomputable multitude — enshrines such a spiritual monad; and each such monad pursues or follows its own path or evolutionary course within broader categories or houses of life that are moving along *their* respective courses.

Molecular biology has also turned up some quite interesting facts about human, ape, and monkey blood-serum chemistry. Tests of their respective DNAs and three important blood constituents hemoglobin, transferrin and albumen — have shown the structural differences of these to be small between man and apes, but much larger between man and monkeys. Within the apes (including orangutans and gibbons) differences between man and gorillas and chimpanzees were quite small, but larger between man and orangutans and gibbons. A related kind of test, called the immunological, has yielded comparable results. (19) These measurements are valuable because they show a taxonomic order among the primates: man is seen to be related in a decreasing degree to the chimpanzee, gorilla, orang, gibbon, Old World and then New World monkeys, and finally the various prosimians, in terms of blood chemistry.

The test results have been employed by some molecular biologists to project estimates as to how long ago man's evolutionary line separated from those of the monkeys on the one hand, and the apes on the other, based on a theory that at the time such divergences began all three life forms had about the same type of hemoglobin. Sarich and others have devised a fairly comprehensive phylogenetic tree of living primates giving estimated times of divergence. This compilation has gorillas and chimpanzees splitting off from man about 7 million years ago, though some researchers suggest that it happened "not more than" 10 and "not less than" 5 million years B.P. Certain baboon ancestors are assigned a date of origin at about 7 million years; orangutans and gibbons 12 million, and monkeys about 20-35 million years B.P. (Prosimians are estimated to have diverged as long as 75 million years ago.) The scientists who constructed this phylogenetic tree emphasized that their concern is not so much with precise periods of years as with general evolutionary relations, and they are undertaking similar tests and projections with other mammalian stocks.

There are probably a number of significant inaccuracies in dating technique, and this is recognized also by the scientists themselves. What is seen in the data — even when allowances are made for such — is the suggestive "fit" that appears. The newer biological projections uphold the older theosophical statements as set out by Dr. de Purucker in chapter 5 of this book: monkeys have a "single dose" and the apes a "double dose" of human blood in their veins, but no human being has any simian blood, ape or monkey, in his or her veins. Theosophy places the point when the monkey line arose from the human line as somewhat earlier than 19 million years ago, while the beginnings of the anthropoid ape line (gorillas and chimpanzees), on the other hand, are given as around 8, possibly 9, million years ago.

MODERN SCIENCE IS BECOMING PHILOSOPHY

A salient feature of the new science is that it has become more philosophical. It is true that a number of outstanding scientists of the latter part of the 19th century were quite philosophical; but their work and conclusions were all too often smothered under the avalanche of materialistic thought which swept over and dominated the sciences and persisted well into this century, as the subject matter of its various disciplines became popularized. The growing realization by scientists of the limits of their capability to explain or even describe with any adequacy the full dynamism of life or the facts of being became apparent in a public way only in the 1930s and '40s. To a much greater extent it is humility which characterizes science in this last quarter of the 20th century; for, as Bronowski recently mused:

One aim of the physical sciences has been to give an exact picture of the material world. One achievement of physics in the twentieth century has been to prove that that aim is unattainable.... The world is not a fixed, solid array of objects, out there, for it cannot be fully separated from our perception of it. It shifts under our gaze, it interacts with us, and the knowledge that it yields has to be interpreted by us. There is no way of exchanging information that does not demand an act of judgment.... And that requires, not calculation, but insight, imagination — if you like, metaphysics. — *The Ascent of Man*, pp. 353, 364

Thus has this brilliant scientific thinker tacitly assented to the theosophical proposition held by the entire ancient world that man *is part of* the universe surrounding him, inseparable from it. Other scientists have in their own way registered similar thoughts. In a series of essays questioning where modern science is going, the great theoretical physicist, Max Planck, titled one essay, "Is the External World Real?" That was in the early 1930s. Another German physicist, Max Born (1882-1970) in his autobiography said: "I am now convinced that theoretical physics is actual philosophy."

If we turn to astronomy, a field which Dr. de Purucker calls "the most spiritual of the physical sciences," a similar panorama unfolds. In 1940, for example, a well-known astronomer of the Mount Wilson Observatory in southern California, Gustav Stromberg, composed a scientifically thoughtful book entitled *The Soul of the Universe.* Much more recently Sir Bernard Lovell, professor of radio astronomy at the University of Manchester and director of Jodrell Bank Centre for Astrophysics, wrote in an article in *The New York Times Magazine*, November 16, 1975, titled "Whence: We Are What We Know about Where We Came From," based on his presidential address to the British Association:

Throughout the whole of recorded history a consistent thread has been the intellectual purpose of man to discover the nature of the universe. Today we refer to this as the cosmological problem: That is, how did the universe come into existence, how did its current configurations — stars, solar systems, galaxies — evolve, and what is its future? . . . Is the answer transcendental or material?

Cosmology has in fact gained recognition as one of astronomy's three principal activities; it may fairly be called the philosophical content of this particular field of science. Most scientists would prefer using the term theoretical rather than philosophical to describe the trend we are discussing. But the word is not so important; the activity meant is clear — that is, a rational search for the truths and principles of being as these can be uncovered through the findings of science, rather than a concentration upon the potential for material application in those findings.

It is not altogether strange that this development is most fully apparent in the scientific fields that are particularly targeted at both extremes of the range of observation of material phenomena open to man: the subatomic at one end, and the galactic (or supergalactic) at the other. In both directions the riddles — of subatomic particles and of the light from celestial objects so distant that it has taken billions of years to reach us — are mental riddles, intellectual riddles, spiritual riddles. Progress here can be made only as scientists are willing to proceed with an open mind and an active intuition, so as to be ready to accept new truth wherever and just as it is discovered, even though it contradicts all their current theories.

It has been said that the history of inquiry into the ultimate questions can be analyzed as a succession of ages, each of which exhibits a certain dominant or favorite mode of investigation into the facts of being. This is the religious, which gives way to the scientific, and is in turn succeeded by the philosophical. Dr. de Purucker has referred to this in his writings, noting that what we call religion, science, and philosophy — three aspects or ways of looking at truth — are but the natural working of the threefold operations of human consciousness. We cannot separate these fundamental operations of consciousness, he says; and only their unified vision proclaims the recondite facts of the whole of being. We see the dogmatic religious assertions of one era cast aside, as men take a fresh and unencumbered look at themselves and surrounding nature. Such prolonged, careful observation, steadily compiled and compared, gives rise to clearer perceptions into nature's meaning. These, eventually, lead to a new and fuller realization of the divine-spiritual heart beating within and behind physical nature, its vehicle. In that manner the cycle brings us again to religion; but with an improved and refined devotion, a deeper and truer recognition of our oneness with all life, and a wiser understanding of our role in the awesome procession of the universe.

Table of Contents

FOOTNOTES:

1. Arthur March and Ira M. Freeman, *The New World of Physics*, Vintage Books, Random House, New York, 1963; p. 133. This book is based on an essay written by Professor March, late professor of theoretical physics at the University of Innsbruck, Austria, and published in 1957 in Hamburg, Germany. (return to text) 2. Cf. J. W. N. Sullivan, *The Limitations of Science*, Viking Press, New York, 1933; p. 148 and passim. This is one of the most lucid and comprehensive summaries of the revolution that has taken place in science and in the thinking of the foremost scientists since the late 19th century when H. P. Blavatsky wrote. This British mathematician and interpreter of physics (who died about 1940) is still regarded as one of the most brilliant intellects of his time. (return to text)

3. Mendel Sachs, McGraw-Hill Book Co., New York. The author was then professor of physics and astronomy at the State University of New York in Buffalo. (return to text)

4. *The Ascent of Man*, Little, Brown & Co., Boston, 1973; p. 344. (return to text)

5. See Graham Massey, "What's Wrong with the Sun?", *The Listener*, June 17, 1976; pp. 762-4. Massey's article is based on a BBC2 "Horizon" television program, which he produced and directed, that examined these and related discoveries in some depth. See also the article "When the Sun Went Strangely Quiet," by Kenneth Frazier, *Science News*, vol. 109, March 6, 1976; pp. 154-6; and "Solar Variability: Is The Sun An Inconstant Star?" by Allen Hammond, *Science*, vol. 191, March 19, 1976; pp. 1159-60. (return to text)

6. Nigel Calder, *The Life Game*, Viking Press, New York, 1973; p. 65 and passim. The author is a former editor of *The New Scientist* and science correspondent for *The New Statesman*. (return to text)

7. [The classification scheme of hominids has changed since this Appendix was written in 1976. At that time gorillas, chimpanzees, and orangutans were all classified as pongids (Great Apes): The current classification is as follows (Wikipedia, 2016):



Here, genus *Homo* refers now to hominins (formerly hominids, i.e. man-like species), *Pan* to chimpanzees, *Pongo* to orangutans, and *Hylobates* to gibbons. As this reclassification does not affect the authors' argument of man's priority, the older classification of hominids (genus *Homo*) and pongids (gorillas, chimpanzees, and orangutans) will be retained. The author continues:]

The term genus *Homo* refers to the primate genus within the Hominidae that includes modern man *(Homo sapiens sapiens)* and a number of extinct species such as Neanderthal man. The term simian refers to both monkeys and apes in general. Not all scientists, however, not even the anthropologists themselves, use all these terms with equal precision. They should be regarded as no more than the best guidelines science has thus far devised for a relatively clear classification of the subject matter. (return to text)

8. References in this Appendix to the dating of fossil materials by means of their associated deposits are, unless specified otherwise, to the potassium-argon method, a radiometric technique that depends upon the slow decay of a potassium isotope (potassium-40) into argon-40, a gas. It is used to date materials having an age greater than about 60,000 years before the present, and is restricted to volcanic and plutonic rock formations. Like all other radiometric methods the potassium-argon cannot be regarded as a definitive measurement of time periods, because it depends upon a belief in the constant rate of decay of element-isotopes. There is no way to prove, for example, that 5 million years ago those isotopes were decaying at the same rate they are now, especially if the earth and matter itself are credited with an evolutional course of change. Although radiometric methods are those primarily employed by much of contemporary science, we should accept their results as provisional at best.

The letters B.P. after a date mean Before Present, "present" being considered for our purposes to be the present century. This system of dating has much greater utility for geological time than does the B.C. – A.D. system applied to our "local" time of recorded history. For the intent is to convey the total age of sites and fossil remains for instant contemporary understanding. Variations in the radiometric measurements of these can be as much as plus or minus several thousand years, making use of the local system almost meaningless. (return to text)

9. It is worth noting that traditional records the world over agree that very early man was generally of gigantic stature, while later stocks have steadily decreased in size to what we see today. (return to text)

10. The depiction of Neanderthal man of La Chapelle-aux-Saints as a kind of half-monster — ungainly, ugly, brutish and with head thrust forward between its shoulders as the anthropoids carry theirs — which persisted as recently as 1957, has been shown as altogether untrue. In that year the skeleton was examined by William L. Straus, Jr., of Johns Hopkins University and Alec Cave of St. Bartholomew's Hospital Medical College in London. They found it was that of an atypical old man who had suffered from arthritis of the jaws, spine and perhaps the limbs; and that the reconstruction of the skull, especially at its base, was unsatisfactory. M. Boule, of the Institute of Human Paleontology in Paris, who had examined and reconstructed the skeleton between 1908-12, prepared the highly respected and highly misleading report about Neanderthal's apelike posture and gait. It is now known that Neanderthal — whose relatively extensive remains have since been uncovered in Africa and Asia as well as Europe — walked as upright as do we and, if he could be seen walking the streets of one of our cities, would attract no more attention than many of its modern denizens. Neanderthal man lived "side by side for long ages" with other types of *Homo sapiens*, and some of his remains have been dated at between 120-200 thousand years B.P., according to contemporary anthropological estimates. (return to text)

11. For a full and interesting account of the growth of the idea of evolution from the time of the Greek philosophers until the early 19th century as seen by modern scholars, see *The Great Chain of Being* by Arthur O. Lovejoy, Harvard University Press, 1936 and 1964. This book is based on Lovejoy's delivery at Harvard University, 1933, of the William James Lectures on Philosophy and Psychology.

[For an article on more recent research, see Ina Belderis, "The Quest for Human Origins," *Sunrise*, Apr/May 2003.] (return to text)

12. *Symposia of the Society for Experimental Biology*, VII, "Evolution," Academic Press, New York, 1953, p. 395. (return to text)

13. For his part, Dr. Kurtén has also been struck by the inexplicably rapid expansion in brain size in certain hominid forms relative to others contemporaneous with them. He finds a strong probability that this took place two or three million years ago, but is unable to account for its occurrence:

"We can make guesses, and it is legitimate to do so, but we do not know for sure. We can only say that, based on the evidence at hand, it seems that the evolution of brain size was suddenly accelerated at least twice during Pleistocene times" (*Not from the Apes*, p. 136).

Kurtén estimates the Pleistocene epoch to have begun something more than three million years before the present. (return to text)

14. "Wraparound," *Harper's*, vol. 251, December 1975; p. 6. (return to text)

15. As quoted in Eiseley's *The Immense Journey*, pp. 83-4. For a fuller exposition of Wallace's views, see his *Contributions to the Theory of Natural Selection*, especially ch. 9-10; first printing, 1870; reprinted by AMS Press, New York, 1973. See also his *Darwinism*, especially ch. 15, "Darwinism Applied to Man," Macmillan & Co., New York & London, 1889. (return to text)

16. By V. Gordon Childe, Watts, London, 1942. Examples of other works that discuss the scientific attitude toward human cultural evolution are *The Human Imperative* by Alexander Alland, Jr., Columbia University Press, New York, 1972; and *Naked Ape or Homo Sapiens?*, by John Lewis and Bernard Towers, Garnstone Press, London, 1969. Dr. Alland is an anthropologist, Dr. Towers an anatomist, and Dr. Lewis a scientific writer with university training in science and anthropology. (return to text)

17. But this distinction between the respective concerns of science and theosophy is crucial, philosophically speaking. So much so that we find H. P. Blavatsky saying that the only real quarrel between theosophy and science is that the latter does not recognize the existence of an astral plane within the physical plane, through which inner and spiritual forces affect and shape the latter. (*The Secret Doctrine*, 2:149.)

[For an informative presentation about the digital (and therefore *intelligently-produced*) information embedded in the cellular DNA,

see Stephen C. Meyer, *Signature in the Cell*, HarperOne/HarperCollins, New York, 2009.] (return to text)

18. While it is true that in the view of science identical twins carry the same genes, each is in actual fact a unique, separate individual, and this is well known even to laymen from simple observation. Here we have an example of the limitations of current scientific attempts to *explain* human individuality on the basis of genes alone; the cause and source of individuality is more recondite, although the bodies or factors we call genes may form an important part of the chemical mechanism that individuality uses for its physical expression. (return to text)

19. See the article, "A Molecular Time Scale for Human Evolution," by A. C. Wilson and V. M. Sarich (biochemists at the University of California, Berkeley), in *Proceedings of the National Academy of Sciences*, vol. 63, September 1969; pp. 1088-93. For an informative overview of this subject, see the article, "The New Science of Human Evolution," by S. L. Washburn and E. R. McCown (members of the Anthropology Faculty at the University of California, Berkeley), in the *1974 Yearbook of Science and the Future*, Encyclopaedia Britannica, Chicago, 1973; pp. 33-48. Kurtén, *Not from the Apes*, pp. 42-4, discusses these blood-serum findings and says that comparative anatomy tends to support them; but he has his own views about their meaning and value. (return to text)

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TABLE OF GEOLOGICAL ERAS AND PERIODS (1888)(The Secret Doctrine 2:710)					
ERA	PERIOD	DURATION IN YEARS	BEGAN YEARS B.P.		
Quaternary		1,600,000*	1,600,000		
Tertiary	Pliocene Miocene Eocene	7,360,000°	8,960,000		
Secondary	Cretaceous Jurassic Triassic	36,800,000	45,760,000		
Primary	Permian Coal Devonian	103,040,000	148,800,000		
Primordial	Silurian Cambrian Laurentian	171,200,000	320,000,000		

*Probably in excess

The Geological Column as Estimated by Contemporary Science*						
ERA	PERIOD	EPOCH	DURATION IN YEARS	BEGAN YEARS B.P.		
	Quaternary	Holocene Pleistocene	2,580,000	2,580,000		
Cenozoic	Tertiary	Pliocene Miocene Oligocene Eocene Paleocene	63,420,000			
Mesozoic	Cretaceous Jurassic Triassic		186,000,000	66,000,000		
	Permian			252,000,000		
Paleozoic	Carboniferous Devonian Silurian Ordovician Cambrian		289,000,000			
Precambrian	Late			540,000,000+		
	Early		3,960,000,000±			
*Based on curre Time columns	4,500,000,000+					