

THE PHYSICS OF THE SECRET DOCTRINE

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The changes are marked after each quote (Oe.) for the older version and (Ne.) for the newer version of the Secret Doctrine quotes. The only other change is with the font and print, as in the book and other electronic versions the font and print is messy and smugged and difficult to read.

THE PHYSICS OF THE SECRET
DOCTRINE

PREFACE

The Secret Doctrine, by Madame H. P. Blavatsky, published in 1888, and other modern Theosophical Works, contain a very large amount of information concerning the nature of the phenomenal universe in which we live concerning the nature of Matter (or Substance) and Force (or Energy).

Much of the information thus given is, however, in a very scattered and fragmentary form, and it appears desirable, not merely that it should be collected and collated so as to compare it with the more recent results of modern Science, but also for a further elucidation of the many veiled hints and references so plentifully to be found.....

Very much of this information is clearly anticipatory of a great deal which has since become accepted fact by modern orthodox Science, but there still remains much which modern Science has not yet reached, and which, indeed, is beyond the reach of research by purely inductive methods and mechanical appliances such as modern scientists rely upon.....

The distinctive difference between modern and occult Science lies in the first place in the point of view from which the whole question of *phenomenon* or *objectivity* is approached, and in the second place in the methods of investigation which are employed.....

Modern Science regards the phenomenal or material universe as a definite *reality* which may be investigated and known altogether independently of any question as to the nature of Life and Consciousness, and it approaches the great question as to the nature of that objective reality from *below*, by inductive methods which proceed from particulars to universals. It also seeks to penetrate further and further into the unseen and unknown by the method of constant improvement and invention of *mechanical* appliances and instruments of observation, to be used by our normal physical senses and faculties.

Occult Science, on the other hand, approaches the question from above, recognizing in the first place as a fundamental principle that all phenomena are modes of manifestation of *Life*— the operation and play of the *One Life* which is the Universe. In the second place its methods are diametrically opposed to , those of modern Science, for it does not rely upon mechanical contrivances, but works by the development within the individual himself of higher powers and faculties, by an expansion of consciousness whereby phenomena may be investigated and

known on a higher Plane. Occult Science gets behind phenomena as known to the mere physical senses, and sees and knows it in a much larger and deeper relation and proportion than is otherwise possible.....

We have no intention here of entering into any controversial questions as to the value of occult scientific methods as opposed to those of orthodox Science. Occult Science is its own justification for those who study it, and our main object is to set forth in as clear and concise a form as possible certain concepts which it presents as to the nature of Matter and Force (or Substance and Motion), so far as these concepts have been presented to the public in theosophical literature within the last twenty-five years or so.

It goes without saying, that no infallibility is claimed for any theory or theories now advanced. These must be regarded more or less as being of the nature of an hypothesis, subject to modification as the result of further information or increased capacity to understand what has already been given.....

Our first business will be to elucidate clearly the modern scientific views as to the nature of Matter and Energy. We may then pass on to the Occult teachings, dealing first of all with the general question as to the nature of phenomena and their Root in Primordial Substance, and after-wards with some special phenomena such as heat, light, sound, electricity, etc.....

It will be shown incidentally in what respects the more recent discoveries of modern Science have been largely anticipated by, and are confirmatory of, the teachings of Occult Science ; how indeed modern scientific theories are now rapidly approaching those which Occult Science has advanced long ago. We might instance, in this connection, the very recent pronouncements as to the possibility of a transmutation of elements ; a possibility, as is well known, so long since advanced by Medieval Alchemists, but until quite recently – since the discovery of Radium – denied by orthodox Science.....

Occult Physics are so closely connected with Metaphysics that it is almost impossible to deal with the one without the other. While, therefore, we shall be compelled to present somewhat of the Metaphysical basis upon which the whole of the teachings rest, we shall at the same time endeavour to subordinate this as much as possible to what is more generally understood as Physics. All Physics, however, all physical inquiry when pushed far enough, must necessarily end in a metaphysical region. Matter can have no ultimate explanation in and by itself, or without its correlative, Mind or Consciousness.

It is hardly possible to make a work of this kind in any sense elementary ; nevertheless, it will be made as little technical as possible ; and it is hoped that the subject has been presented in such a manner as to be readily understandable by the average non-technical reader.....

It is also hoped that what is herein set forth will serve, in some little degree, as a tribute to the remarkable genius and knowledge of the gifted woman to whom we owe *The Secret Doctrine*.

W. KINGSLAND.
London,
December 1909.

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CHAPTER I

FUNDAMENTAL PRINCIPLES

At the root of all our thinking, of all human endeavour to penetrate and understand the great triple mystery of Matter, Force, and Life (or Consciousness), to solve if possible the great Riddle of the Universe, to go behind the mere appearance of things into the arcane region of Primal Causes: there lies a fundamental necessity—expressed in different ways in Religion, Philosophy, and Science—to unify all diversity under some one general term or concept to postulate the existence of some One Root Principle, existing eternally as the Cause, the Source, or the Container of all things.

In Religion this Primal Cause is expressed under some concept of a Divine Being.

In Philosophy we have the concept of an Absolute, or such terms as the Unknowable, or the Unconscious.

Science, however, can hardly be said as yet to have such a concept ; indeed in the modern sense of the term Science, such a concept is not strictly speaking within its province, at all events it is not within the province of physical science, for physical science cannot deal with metaphysical questions; it has nothing to do with the question of the ultimate relation of subject and object, of

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Consciousness to that phenomenal universe which physical science accepts, or at all events treats, as an independent Reality.

It is true that the attempt has been made by some scientists to include the phenomena of life and consciousness within the mechanical laws of matter and force ; to make of matter, with its intrinsic energy, the *fons et origo* of all things in the Universe. This attempt is what is commonly known as Materialism ; and, in its very inadequacy, it is but one example of the fundamental necessity of the human mind to which we have alluded.

Deeply implanted within us there lies a sense of the unity and uniformity of Nature; we are compelled to conceive of a substantial *Something* which may change in appearance, in its modes of action or manifestation, but which in itself and by itself must be Self-existent. Infinite, and Eternal.

The objective and visible symbol, the appearance, the manifestation of that *Something*, we know as Matter ; and although no one has ever proved that Matter exists *per se*, or apart from the Consciousness by which it is known or cognized, yet Matter at least stands for us as the representative of that basic *Something* which can neither spring out of nothing, nor can ever be conceived of as being annihilated.

The knower (Consciousness) and that which is known (Matter or Phenomena) must both in the end be this same basic *Something* if our intuition of a final Unity has any foundation in fact. Possibly, therefore, we may find in a final analysis that it is all one whether we say that without Matter there can be no Consciousness, or that without Consciousness there can be no Matter. These two are possibly so related as poles, or aspects, or modes of the One Reality, that either of them must disappear with the other –not of course in any individual form in which they may exist for the time being, but in their *cosmic* relationship.

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In other words, we would suggest—without entering into any metaphysical discussion of the matter—that that which wells up within us as individual Consciousness must have a *cosmic* origin just as necessarily as that which manifests as individual forms of matter, or physical phenomena.

This concept, indeed, is a fundamental one in Occult Science, which sees in all Phenomena the expression of a Cosmic Life, and in all selves or individual forms of consciousness the reflection of the One Universal Self.

The history of modern Science, the Science of the nineteenth century, will always be associated with three great generalizations (a) the indestructibility of matter, (b) the conservation of energy, and (c) the law of evolution.

These three great principles have gradually assumed the character of scientific axioms. Strictly speaking, they are only demonstrable within very narrow limits of observed phenomena; but as the result of our sense of uniformity and unity in Nature, they have further assumed the character of universal laws. Scientific men believe that they are operative in every part of the Cosmos.

We shall have to deal with each of these in turn in the following pages, as they are fundamental concepts of Occult Science as well as of Modern Science ; indeed they are only restatements of some of the oldest teachings in the world; they have been rediscovered, or reformulated, in an age and civilization only just emerging from centuries of intellectual darkness and thralldom. The proof of this, the various glyphs, and the symbology and terminology embodying these principles in the ancient Scriptures and Occult Records of the world—all these

are voluminously dealt with in Madame Blavatsky's great work, *The Secret Doctrine*, This part of the subject, however, belongs to the literary and historical side of the question, with which we are not now concerned.

The first of these three great principles – the indestructi-

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bility of matter – means something very different to-day from what it did at the commencement of last century, or indeed even a few years ago. All through last century Physical Science was dominated with the idea of the absolute indestructibility of physical matter as such, or of the chemical atom. At the commencement of the century Physical Science was largely overshadowed by the genius of Sir Isaac Newton, and Newton had written of Matter as follows :

" It seems probable to me that God in the beginning formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes and figures, and with such other properties, and in such proportion to space as most to conduce to the end for which He formed them ; and that these primitive particles being solids, are incomparably harder than any porous body compounded of them ; even so very hard as never to wear or break to pieces ; no ordinary power being able to divide what God himself made one in the first creation."

We find an echo of this, tinged also with the theological bias, in the celebrated " Discourse on Molecules " by Professor Clerk Maxwell, delivered before the British Association at Bradford in 1873. Professor Maxwell says :

"Though in the course of ages catastrophes have occurred and may yet occur in the heavens, though ancient systems may be dissolved, and new systems evolved out of their ruins, the molecules out of which these systems are built – the foundation stones of the material universe – remain unbroken and unworn. They continue this day as they were created – perfect in number, and measure, and weight."

We might also quote the following, taken from a book published as late as 1899 by Professor Dolbear, entitled *Matter, Ether, and Motion*. It serves to show how the idea of the indestructibility of physical matter *per se* has been an article of faith with some scientific men down to the very end of the last century.

"There is nothing to indicate that attrition among atoms or molecules ever removes any of their material. It appears as if

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one might affirm in the strongest way that the atoms of matter never wear out. ... So one may be led to the conclusion that whatever else may decay, atoms do not, but remain as types of permanency through all imaginable changes – permanent

bodies in form and all physical qualities, and permanent in time, capable apparently of enduring through infinite time. Presenting no evidence of growth or decay, they are in strong contrast with such bodies of visible magnitude as our senses directly perceive. . . . There appears to be nothing stable but atoms."

But notwithstanding this conservative tendency, the indestructibility of the chemical atom has long been doubted by some few leading scientists ; and, finally, the discovery of radioactivity, and of Radium itself, has practically placed the matter beyond any doubt; for in Radium we have an actual case of the break-up or disintegration of the chemical atom.

It is now absolutely certain that the atom is an exceedingly complex body, that it is in fact built up of varying numbers or aggregations of much smaller bodies, that these smaller bodies have some very intimate relation to what we know as electricity, and that the atom contains within itself an enormous store of intrinsic energy.

It was perhaps quite natural that without the comparatively intimate knowledge of the structure of physical bodies which we now possess, the earlier conceptions of the atom should be wholly based upon the very evident properties of matter in bulk.

Thus, without passing into a purely metaphysical region, it is comparatively easy to conceive of the atom as being only a very small piece of the matter with which we are so familiar ; to conceive of the atom as being an exceedingly minute body having both mass, or inertia, and size, or extension in space.

But this conception of the atom as a " solid, massy, hard, impenetrable particle" is not one with which either Science or Philosophy could really remain satisfied. Religion might rest on the assumption that the atom was a " created "

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article, though even authoritative Religion must finally bow to the evidence of irrefutable fact.-----

But it is quickly seen that the hard particle theory raises many difficulties of its own of a scientific as well as of a philosophical nature, and leaves many things unexplained or unaccounted for on the principle of uniformity or unity. It could not in fact be a final or Root Concept.-----

Anything which occupies space, however small, may conceivably be subdivided *ad infinitum*. But to admit that the atom may be subdivided to infinity is practically to annihilate it altogether ; or, as Buchner says, " to deny altogether the reality of matter." On the other hand Herbert Spencer considers that we must admit such infinite divisibility.....

The scientist, however, who refuses to pass over the imaginary line which he himself draws between physics and metaphysics, must feel compelled to cling to a material particle of some kind or other, and accordingly we find, as a modification of the original concept of the indestructibility of the chemical atom,

the hypothesis that there may be some minute primordial particle or ultimate atom or atoms, all these atoms being absolutely alike, and the various chemical atoms with which we are familiar being built up of varying numbers and combinations of these primitive particles.

These particles, however, are still conceived of as having mass and extension, the two irreducible and inalienable characteristics of matter as such, to which the physicist must cling.

Under this hypothesis all phenomena are supposed to be due, in their last analysis, to the motions and impacts of these ultimate or primordial particles.

This theory, however, only shifts one of the primary difficulties a little further back, from the chemical atom to the primordial particle.

It is necessary that this primary difficulty should be very

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clearly understood, since it largely affects our ideas as to the nature of Force or Energy, as well as those of matter. Any physical theory which may be advanced as to the nature of Matter must be in consonance with the second of our great generalizations, i.e., the Conservation of Energy.

The phrase " the Conservation of Energy " means simply that the sum-total of Energy in the Universe is a constant and indestructible quantity, just as the quantity of matter was conceived to be under the old ultimate particle theory. Energy may be transformed, or transmuted from one form to another, but Energy, considered as a quantity, can never be destroyed.

Now the two indispensable factors in the manifestation of what we know as Energy are *mass* and *motion*. Energy is the product of these two, and any body or particle moving with a certain velocity possesses a definite amount of energy, or *momentum*, expressible as the mass multiplied by the velocity, or $m \times v$.

Formerly it was supposed that all the various forces light, heat, electricity, etc., –were *imponderables*. They were something else than matter. But with the growth of a purely mechanical idea of the Universe these imponderables were banished, and finally the idea of the substantial nature of Force has been totally repudiated. Brought into line with the atomo-mechanical theory of the Universe, the term Force has been replaced by that of Energy ; Energy being simply the result of the motion of *mass*, whilst Force is only considered to be a convenient term for the rate of change of motion, and has thus no claim to any substantial or objective existence.¹

We shall see later on, however, that the substantial nature of Force is in a fair way to be re-established. It is one of the fundamental doctrines of Occult Science. Energy, then, being dependent on the two factors *mass*

¹ See P. G. Tait, *Recent Advances in Physical Science* (1876), Lecture xiv., on Force.

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and *motion*, it is evident that if either of these disappears or is annihilated, Energy must be destroyed, and the doctrine of the Conservation of Energy abrogated.

This is why the modern scientist clings so desperately to his idea of ultimate *mass*. The more philosophical view of the ultimate nature of Substance has not yet penetrated into the region of orthodox physics. Indeed it is not needed for the practical manipulation of matter and energy on the physical plane. Just as Dalton's atomic theory will serve all the practical requirements of Chemistry up to a certain point, so also will a purely mechanical idea of the nature of Matter and Force serve the physicist in all his practical or experimental investigations. But when he seeks to penetrate further into the very ultimate nature and constitution of things, nay even when he seeks to penetrate only so far as the nature of Matter in its next remove from the physical Plane—Matter on the Etheric Plane—he is met with a state of things in which all physical analogies fail. Take away the fundamental idea of *mass* as a definite concrete *material* something, and his whole scheme of the Universe vanishes into a metaphysical region where he cannot possibly follow with his mathematical formulae. Thus he clings tenaciously to the idea of mass as an ultimate and indestructible factor in phenomena; in other words, he conceives that any final analysis of matter—whether it be into Ether or some more primordial form of substance must still reveal the presence of mass.

Mass or inertia, we are told by modern physicists, is an irreducible minimum of material qualities. This may be granted as applicable to *physical* matter, which is all that we can take cognizance of with our physical senses. Whatever other forces or forms of matter there may be in the universe, we can only take cognizance of them in physical science by their effects in or upon physical matter, and in that respect they must be associated in some way, or translated as it were, into that particular mode of manifestation

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which we call *energy*, and which is indissolubly associated with the idea of *mass* or *inertia*. The real fact is that the conception of mass is absolutely necessary for any physical or mechanical explanation of phenomena because it is part of our mental image of matter : it is indissolubly associated with our *sensation* of matter ; and the business of the physicist being to give a *physical* explanation of phenomena, he cannot do without it. We must remember that to give a physical explanation of phenomena means that we must do so in terms of the familiar things of our everyday life and consciousness. Nevertheless, physical matter being an effect, not a cause, we can never really explain the Universe in terms of material phenomena.

Now in order to understand where the ultimate particle theory of Matter breaks down in its connection with the doctrine of the conservation of Energy let us take a concrete illustration. Suppose a body such as a cannon-ball or a rifle-bullet collides with a target, whereby its motion as a body is wholly annihilated. The energy of the body as a whole thereby ceases, but it is not lost or destroyed. According to the law of the conservation of energy, it must be handed on or transmuted into something else, it must reappear in some other form. As a

matter of fact we know that in this case the energy which previously existed as a mass motion of the cannon-ball or bullet, is converted into molecular motion and reappears as heat.

Apply this to the ultimate particle theory. That theory postulates that all phenomena whatsoever are due to the motions of the ultimate particles. Now if these ultimate particles are really indivisible and indestructible, we have at once assured ourselves that one of the necessary factors in the conservation of energy, that of mass, is conserved and cannot be destroyed, or even changed into something else. But how does the matter stand with the other necessary factor, i.e., motion ?

If we suppose that our ultimate particles are hard, rigid,

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and inelastic, then we are face to face with the serious difficulty that they must be constantly losing their motion, and consequently their energy, by collision with each other. Two particles meeting in opposite directions with the same velocity would have their respective motions absolutely destroyed; for, being absolutely rigid and inelastic, there could be no rebound, neither could the motion be converted into internal molecular motion as in the case of the bullet; for our ultimate particle, as already defined, has no internal construction. In this case, therefore, motion would be absolutely destroyed, and the law of the conservation of energy abrogated.

We see, indeed, as a matter of fact, that unless some amount of energy is to be lost with every collision, the ultimate particle cannot be anything less than absolutely elastic, that is to say that two particles meeting in collision would rebound with exactly the same velocity as they met. This supposition, however, only involves us in an *impasse*, for elasticity must, according to all our physical ideas, imply a structure for the ultimate particle ; it must imply that the particle can be strained, and that it can recover from the strain ; it implies a movement of component parts. But our ultimate particle has no component parts. If we are to conceive of it as elastic, therefore, we stultify our fundamental conception of it.

Yet motion must be conserved somehow. Instinctively and intuitively we feel that the *Primum Mobile* of the Universe cannot be diminished or depreciated. In some sense the Universe must be a perpetual-motion machine. If it were in any sense running down like a clock that has been wound up—well, it has already had an eternity to run down in. Such a conception may be applicable to a part, such as a Solar System, or to this Physical Plane only, but it cannot be true of the whole.

Herbert Spencer and other Philosophers have conceived that while it is running down in one place it is being wound

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up in another, and that this process constitutes what we know as evolution and

devolution. But the difficulty of conceiving of this on any purely physical basis is insurmountable.

Most of the energy which this Earth *possesses*, or which comes to it from the Sun or other sources, is ultimately radiated away into space, and there *apparently* irretrievably lost, passing out into the infinity of space, travelling on and on, for ever and ever, as a mode of motion on the Ether. And if it be postulated—as indeed has been done in order to get over the difficulty—that at some inconceivably remote point it is turned back, that in fact Space is not infinite—some have even conceived that it is curved—then at once we have left the region of physics, and are face to face with the metaphysical question as to the nature of Space itself.

Now it is very clear that all these difficulties arise simply from the fact that we are trying to explain the whole Universe from top to bottom *in terms of the physical Plane only* ; in terms, that is to say, of our limited physical senses and consciousness.

We would lay particular stress upon this, because the first and foremost principle of Occult Science is a full and complete recognition of the fact that no question of ultimates can be solved from mere physical Plane data or phenomena. The physical Plane is a Plane of *effects*, not of causes ; it is in fact a Plane many times removed from the Plane of Primal Cause, and the effects or phenomena discernible thereon are not primary, nor even secondary effects, but effects many times removed from the ultimate Cause or Noumenon.

We shall deal more fully with this, and with the question of Planes, later on : but, meanwhile, we must note how Modern Science is coming into line with this fundamental concept of Occult Science.

Let us return, therefore, for a moment to our ultimate particle theory. Supposing that all matter does consist of

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these ultimate particles, these "solid, massy, hard, impenetrable" objects, which are moving about in space in all directions, and mutually exchanging their motions, and supposing that we have shut our eyes to the little difficulty about elasticity, etc., we have still to ask—What else does Space contain ?

To this question there is at present only one answer given by Modern Science—Space is filled with the Ether.

Now the existence of the Ether was guessed at by Newton, but was regarded as altogether hypothetical by many scientists even down to the middle of last century. Its existence was really credited in the first instance as the result of the celebrated undulatory theory of light enunciated in 1801 by Thomas Young ; indeed, the only function which the Ether was at first supposed to perform was to serve as the medium for the transmission of light-waves, its only activity was to undulate.

Gradually, however, the important part which the Ether plays in all physical phenomena was recognized. Its connection with electric and magnetic

phenomena was clearly demonstrated ; and, indeed, the history of the Science of the nineteenth century may be said to be the history of the discovery of the all-importance of the Ether. The Ether literally ensouls physical matter; no physical phenomena whatsoever can take place without its agency.

But what is Ether, and what is its connection with physical matter ?

One of the main objections to any ultimate particle theory of matter –viewed in the light of our desire to unify all phenomena, to relate everything in the Universe to some one Root Principle – is the fact that we have thus in Matter and Ether two apparently distinct substances, differing totally in their characteristics and properties, and seemingly absolutely independent of each other. Matter, as such, was postulated to be indestructible and eternal, and certainly nothing less could be said of the Ether.

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The first scientist to attempt to break down this duality was Lord Kelvin. In 1867 he put forward his celebrated vortex-atom theory, in which he postulated that the atom of physical matter might possibly be some form of vortex-ring motion in and of the substance of the Ether.

This theory obtained little or no support from contemporary scientists ; it was in fact several decades in advance of its time, and there was hardly any, perhaps we might say no actual scientific evidence to support it. Nevertheless, it was a theory destined to bear fruit later on ; indeed, we might possibly date the decline and fall of the hard particle theory from that time. Various lines of research were gradually pointing to the fact that the chemical atom at all events was not simple in its nature, that it was conceivably built up of something much more elementary. Then came the discovery of the Cathode Rays; later on the discovery of Radio-activity, of Electrons, and finally of Radium : the phenomena connected with this substance being ultimately ascertained to be due to the actual disintegration or break-up of the chemical atom.

Thus, as the final achievement of the Physical Science of the nineteenth century, we have broken down the old atomic barrier to further advance, the seemingly impenetrable wall of " hard, massy particles " which barred the way, and have advanced at least a few steps into the arcane region beyond.

What, then, has Modern Science discovered there ?

First and foremost, the corpuscle or electron.

The principal fact connected with the phenomena of the cathode rays, and with all radio-active substances, is the existence of exceedingly minute particles to which the name of corpuscle or electron has been given. In 1897 Professor Sir J. J. Thomson succeeded in ascertaining the mass of these particles, and found it to be only $\frac{1}{500\text{th}}$ or $\frac{1}{1000\text{th}}$ that of the lightest atom hitherto known, i.e., the hydrogen atom.

At first, then, it was thought that the atom of hydrogen

might be composed or built up of some 800 or 1000 of these smaller particles, but this supposition appears to have been somewhat too hasty a conclusion.

The really important fact, however, about the electron is this, that it is found to consist of, or to carry with it, a definite charge of electricity, and in this respect all electrons, from whatever source obtained, are found to be identical.

Thus the electron has not merely the smallest mass of anything known, but it is also, so to speak, a unit atom of electricity.

Now it is well known that a body charged with electricity acquires, as the result of that charge, and when moving through space, an additional apparent mass or inertia ; over and above its legitimate physical mass. Up to a velocity of about 18,000 miles per second—about one-tenth the velocity of light—this additional mass is not subject to any apparent variation. But at higher velocities it increases rapidly, and at the velocity of light itself—185,000 miles per second—it would be infinite.

If, then, the electron is a very small particle of matter having, or carrying with it, a definite electric charge, its mass would be expected to vary with varying velocities, and such an effect has, in fact, been actually observed by Kauffmann : the mass of the electron in some of his observations being found to be at least three times as great as that which was measured at the slower velocities.

But at this point a very interesting speculation comes in. May not the *whole* mass of the electron—its apparent mass at the slower speeds, as well as its added mass at the higher speeds—be due simply to its electric nature ; may not the electron in fact be *wholly an electric charge*, with no real solid nucleus of matter at all ?

In this view—which is known as the *electronic theory* of matter—the electron is considered to be a unit or atom of electricity, and matter—the chemical atom—to be built up of electrons.

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But what, then, is electricity itself ?

Electricity is certainly an ethereal phenomenon ; and the electron is conceivably some sort of a " knot," " twist," or " nucleus of intrinsic strain " in the Ether. Matter, therefore, according to this theory, is in substance *etheric* in its nature ; physical matter in fact is Ether, a special mode or form of motion in and of the substance of the Ether.

This theory is as yet by no means proved ; nevertheless it holds the field as a working hypothesis, and one moreover which appears to offer the best prospects of further advance. Some leading scientists appear to have definitely accepted it. Professor Sir J. J. Thomson tells us that " All mass is mass of the ether ; all momentum, momentum of the ether ; all kinetic energy, kinetic energy of the ether " ; ¹ in other words, every physical phenomenon whatsoever, including matter itself, has its origin and source in the Ether.

As far back as 1882 Sir Oliver Lodge wrote of the Ether and its functions as follows : " One continuous substance filling all space : which can vibrate as light ;

which can be sheared into positive and negative electricity ; which in whirls constitutes matter; and which transmits by continuity, and not by impact, every action and reaction of which matter is capable. This is the modern view of the Ether and its functions." ²

Here, then, we reach the borderland at which Modern Science now stands. Physical matter is resolvable back into the Ether : into a continuous, homogeneous Substance filling all space. This Substance is, therefore, for Modern Science, the Primordial Substance, the *Urstoff* of the Universe.

And since physical matter is resolvable back into this Substance, it has presumably been evolved therefrom.....

¹ *Electricity and Matter*, p. 51.

² Lecture on " The Ether and its Functions delivered at the London Institution, Dec. 28, 1 882. See reprint in *Modern Views of Electricity*,".

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Quite possibly, as Science has now discovered the disintegration of matter, it may not be long before the integration or formation of our physical atoms is also discovered. Possibly scientists may be able to track Nature's process into some region as yet unsuspected, and there discover the secret of the formative process. We shall see later on that Occult Science has many hints to give in this direction.

One thing is certain : the old rigid particle theory has gone by the board ; the atomo-mechanical theory is as dead as the atoms themselves were supposed to be, even if it has not as yet had a decent burial. As Sir Oliver Lodge has said, " We cannot go back to mere impact of hard bodies after having allowed ourselves a continuous medium."

We see, therefore, that Science has now reached a much wider and deeper generalization than any which was possible so long as the phrase "the indestructibility of matter " meant nothing more than the indestructibility of physical matter, or the chemical atom. Science is, indeed, now within a measurable distance of a really unitary concept, even if not quite of a philosophical concept of that One Primordial Substance which is the Eternal Root Principle and indestructible Cause of all phenomena.

It would be asking too much of Modern Science, however, to regard Primordial Substance—whether that Substance be the Ether, or something still further removed from our physical Plane—as anything else than a *dead* substance, as anything else than a material something, using the word " material " in a purely mechanical sense. For the physicist, matter in itself or by itself is inert and passive it is *dead* in every sense of the word. It is only in very complex combinations of physical atoms and molecules, in protoplasm for example, that it commences to exhibit the phenomena which we commonly associate with the term *life*—i.e., self-initiated movement.

For the physicist pure and simple the question of life

does not exist, and it is perhaps only natural that, just as the first ideas as to the nature of atoms were derived from what is so obvious to us when dealing with matter in bulk, so also the first conceptions as to the nature of *Substance* should be based upon the mere mechanical properties and mathematical formulas with which the physicist deals. How, indeed, can the physicist ascribe to the Ether — not to speak of that which lies beyond the Ether — any properties or modes of motion of which he has no physical analogies whatsoever ?

It will be seen from what follows that Occult Science is not thus restricted. For Occult Science the Substance of the Universe is *living* substance, and it is only "down here," in the form of physical matter, that that Substance takes on the appearance — to our limited physical senses of a dead, inert thing.

Occult Science joins with Modern Science in asserting that Matter is indestructible; only the Matter of Occult Science is not even the Ether, much less physical matter. Occult Science joins with Modern Science in asserting that Energy is indestructible; only that Energy is something much more than the mere product of mass and velocity.

Occult Science joins with Modern Science in upholding the great law of Evolution ; but its understanding of the scope and operation of this law is infinitely wider and deeper than any to which Modern Science has yet attained.

CHAPTER II MATTER AND MOTION

Let us conceive now, in accordance with the teachings of both Modern Science and Occult Science, that all Space is filled with *Something*, the most philosophical term for which would be Primordial Substance, because the term *Substance* means literally that which sub-stands, or stands under, as a root or basic Principle. It is that from which the phenomenal Universe is evolved, that by reason of which it *exists* or comes into *ex-istence* (from *ex*, out, and *sisto*, to stand), i.e., that which appears or is manifested of an otherwise concealed Cause or Principle.

Considering this Principle, however, in a somewhat more restricted sense, as merely the Root of Matter, we may give other names to it; and the name which Modern Science gives to it is Ether.

The Ancients also called it Æther ; only their Æther was not the Ether of Modern Science, but something very much further removed from physical Plane phenomena. We may retain the distinctive spelling of the word in order to indicate the difference.

Now it is not difficult to postulate the existence of " one universal substance, perfectly homogeneous and continuous and simple in structure, extending to the furthest limits of space of which we have any knowledge, existing equally everywhere" (Sir Oliver Lodge). Such a substance, we see, must be practically

identical with space itself. It is

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not difficult to form some sort of a mental concept of this, because to our physical senses the invisible air, which we know occupies the space in which we move, appears to be continuous and homogeneous. In water also we have another example of an apparently homogeneous and continuous substance.

It is not difficult, further, to conceive of certain forms of motion existing in such a substance. We may form vortex-rings in air or water ; though, unless we use a little smoke or some coloured liquid, these rings are not distinguishable to our sight from the medium itself in which they are formed. We are also familiar with waves, undulations, and vibrations in such mediums, and indeed our present ideas of the possible motions of the Ether appear to be wholly based upon these familiar forms. We know for certain that the phenomena of light, heat, electricity, magnetism, etc., are due to certain specific forms or modes of motion in and of the Ether; but whether all these phenomena—and that of matter itself—are *nothing more* than " modes of motion " of a simple homogeneous space-filling Substance is quite another question. The general tendency now is to regard the Ether as structural, even if not atomic : in which case we shall have to go further back for our real space-filling or Primordial Substance. In other words, just as we have to distinguish between the Ether itself and that mode of motion of the Ether which we know phenomenally as physical matter, so also we may possibly have to distinguish between Primordial Substance itself, and that mode of motion of it which we now know as the Ether.

The difficulties which lie in the way of a clear knowledge of the nature and functions of the Ether are, in fact, very great ; for when we endeavour to realize what the Ether must be in itself, in its own intrinsic nature and properties, the simple and gross physical analogies to which we have referred fail us entirely. We have no such thing on the physical

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plane as a continuous, homogeneous substance ; the atoms is the nature of the Ether that it apparently flows quite freely through the very densest physical bodies, as if they consisted of an open meshwork of the largest possible dimensions. Physicists are beginning to teach us, indeed, that atoms and molecules are comparable, in their relative sizes and distances, to the Sun and Planets of our Solar System. A single atom of hydrogen might possibly be found to consist, if sufficiently magnified, of a few bodies (corpuscles or electrons) comparable in size to the Planets, and revolving in orbits round a central nucleus comparable to the Sun. In other words, our Solar System might possibly be a mere atom, and our own particular universe—which there is reason to suppose has its limits—would be merely a compound molecule in the vast Cosmic Whole.

Now all this is, of course, the purest speculation on the part of Science, yet it

serves to show, in the first instance, how the mind must necessarily run into these wider generalizations for its own satisfaction. Even the scientific mind cannot rest contented with bare facts ; the imagination must always outrun the limitations of actual knowledge.

In the second place, we see in this wider outlook the recognition by Modern Science of a principle which has always been a fundamental one with Occult Science. This principle is known as that of correspondence and analogy " as above, so below." It teaches that the Microcosm is a copy or reflection of the Macrocosm ; that in both small and great we shall find not merely the same fundamental principles at work, not merely a fundamental unity and uniformity in nature, even as it appears to our limited senses, but something much more fundamental even than that, something for the proper apprehension of which we must even get outside of our limited conceptions of time

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and space. This would lead us, however, too far into the metaphysical side of the question.

Modern scientists, notwithstanding their general detestation of Metaphysics, are constantly seeking to interpret phenomena in philosophical terms, to penetrate with the imagination that super-physical region which lies beyond the reach of their physical senses and instruments, and the actual happenings of which can only be inferred from the visible and palpable effects in physical matter. Scientists have indeed been accused, not without some show of reason, of being unconscious metaphysicians.

Physical Science, however, has no philosophy of Primordial Substance, and the question of the relation of the Ether, or, in general, of higher or super-physical Planes of Substance to Life and Consciousness, is one which at present concerns the science of Psychology or Psychical Research, rather than what is more generally known as Science.

In Occult Science, however, as already indicated, it is impossible, when dealing with the question of the Space-filling Substance, to put on one side the question of Life and Consciousness. The reason for this can be very simply stated.

In the view of Occult Science, Spirit (Life, Consciousness, Ideation) and Matter are the two poles or contrasted aspects of one and the same thing — of the One Root Principle, by whatever name it may be called. All phenomena are the result of contrast, differentiation, discrimination, or opposition. Apart altogether from the metaphysical question as to the primary relationship of Consciousness to Phenomenon, or of Subject to Object, we cannot know any single thing save by its qualities, and these qualities are in the nature of contrast with other qualities, and always imply an opposite, a duality. They always imply also a limitation in the thing itself as cognized.

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In the concepts of physical Science, the fundamental duality is Force or

Motion, and Matter ; and Occult Science asserts that Force in its ultimate analysis and nature is the One Life of the Universe. On the highest Cosmic Planes, on the Plane of Primordial Substance itself, the *Cause* of all that we know down here as various differentiated forces is a Conscious Intelligence ; or more correctly perhaps, a Hierarchy of Conscious Intelligences. This, however, we shall deal with more in detail later on.

We have already hinted that modern Science is not very far from a recognition of the substantial nature of Force, an idea which was practically abandoned last century in favour of the more concrete term Energy. Already the *electrons* are spoken of by some scientists as " centres of force " in the substance of the Ether. Having done away, indeed, with the atom or ultimate particle as a thing existing *per se*, and having substituted in its place an absolutely space-filling Substance, we see that the forms or modes of motion in or of that Substance which stand in the relationship of *forces* to that other form or mode of motion which we call physical matter, must be as *substantial* as matter itself. Nay, further, they may even be atomic, in the same sense that matter is atomic. Already we are told that electricity is atomic, and it may still be found that the corpuscular theory of light is capable of a new interpretation.

It is clearly seen that on the basis of an absolutely space-filling Substance, in which physical matter—or the matter of any possible Plane of consciousness—is only a particular mode of motion, or manifestation of Force, there is in reality no such thing as a material particle at all : that is to say, a particle which has a distinct mass or inertia of its own altogether independent of its specific motion. The existence of the particle is dependent upon motion, and not the existence of the motion upon the particle. A space-filling Substance such as we have postulated cannot be densified in order to form it into a material particle, it

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exists equally everywhere; and the apparent density of matter is not due to more or less substance, but to more or less motion, or Force.

That specific form of motion of the Ether which constitutes physical matter may conceivably be transformed into another absolutely dissimilar mode of motion ; and in that case physical matter would simply disappear, it would utterly vanish, though motion would remain, inherent in Substance. That the whole physical universe will thus one day disappear, reabsorbed or reinvolved into that One Root Substance from or in which it has been evolved, is one of the fundamental teachings of Occult Science.

Let us conceive, then, that all space is filled with this Primordial Substance, whether it be the Ether of Science, or something still further removed from our present physical consciousness. If we regard this Substance merely as the Root of Matter, as something which is merely passive and inert, then it must be something in which something else which we can only call *Force* acts to produce certain specific forms of motion.

We cannot say that Force acts upon this Substance, because, since it fills all

Space, and is, therefore, practically identical with Space, there is no outside to it. Force might conceivably act from some still more interior plane, from something more interior than Space itself ; but here again we touch the metaphysical question as to the nature of our concept of Space. Physically, indeed, when we have postulated an absolutely space-filling Substance, we have reached the limit of our possible conceptions.

We may picture, therefore, to ourselves a space-filling Substance, capable of taking on, as it were, all sorts and forms or modes of motion, of which the most conceivable to us at present are vortex-rings, and waves or undulations.

The scientific man must necessarily form some kind of a mental image of what is actually taking place in the unseen region which he is endeavouring to penetrate.

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Many physicists find it useful to make mechanical models to illustrate such things as the chemical combinations of atoms and molecules, and the action of electricity and magnetism. Several mechanical models of the Ether itself have even been attempted; but in such case the Ether must of course be conceived of as structural in its nature, and would therefore not be the Primordial Substance which we are seeking. " Ether, whatever Modern Science makes of it, is differentiated Substance."

If now, in consonance with the doctrine of the conservation of energy, we regard motion in and of the Primordial Substance as being indestructible –not individually or separately in its various forms or modes, but as a whole –we do not need to go beyond Primordial Substance itself for the origin of Force, nor do we need to set up Force as a separate Entity. We have, in fact, resolved both Force and Matter back into one primitive Root Principle, which we might thus term Force-Substance.

In this view, all individual forces, as well as all specific kinds of matter, will be simply specialized or limited forms or modes of motion in and of the One Substance. Force, in fact, will be as substantial as matter, or matter as unsubstantial as force, whichever way we may prefer to state it. These varied and specific forms or modes of the One Substance are destructible as forms, or mutually convertible, but the Force-Substance in itself, and in its eternal ceaseless Motion, is indestructible and eternal.

It will readily be seen, further, that so soon as any specific form or mode of motion –such, for example, as that which constitutes the electron –has been set up, or any specific combination of such motion, such as constitutes our physical atoms : that specific form, now constituting what we call "matter," will not merely have its own intrinsic store of energy, such as we actually find within the physical

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atom, but it will also be an actual individual *thing*, differentiated from other

similar things, and also from other forms of motion constituting what we call "force." This force, therefore, or these forces, can now act upon it from *outside*, and the Force-Substance, which in its primal nature we are compelled to conceive of as *One*, has now become distinguishable not merely as two – Matter and Force – but as an infinite variety of *things*, constituting for us the Universe of Phenomena.

We shall discuss this process of differentiation or evolution more in detail later on, but in the meantime we may point out, in order that the fundamental principle may be clearly grasped, that we have in the relation which exists between the physical Plane and the etheric Plane a correspondence and analogy which may be applied, *mutatis mutandis*, to any number of Planes. The relation of any Plane to the one next below it is a *force* relation ; the higher Plane literally *ensouls* the lower. Suppose that Ether actually is our Primordial Substance, that in fact there are only two Planes in the Universe, i.e., the etheric and the physical then, when once the physical Plane has been formed out of, or evolved from the etheric, the etheric now stands in the relation of "force" to the "matter" of the physical Plane. The Ether and physical matter are all one *Substance*, but the Ether *per se* is accountable for all the "forces" with which we are familiar – heat, light, electricity, magnetism, gravitation, etc.

To recapitulate slightly, we may distinguish between Matter and Substance in this way. Matter is an *effect*, and its characteristics are what we know as mass or inertia, and extension in space, in the sense of size, or occupancy of a *limited* space.

Substance, on the other hand, is *cause* ; and in its ultimate nature it cannot be said to have either mass or extension in space in the above sense ; for both these must be absent in an absolutely space-filling Substance. If it can be said

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to have any physical characteristic whatsoever, that characteristic would be only ceaseless, eternal Motion. Matter may utterly disappear, for it is only a *form* of motion but Substance remains, and Motion is indestructible.

Now we have seen that Energy is motion of mass, but with the disappearance of matter or mass, Energy also would disappear. Energy is the *effect* of the action of Force, whilst Force is *cause*. We measure the effect in the form of Energy – and infer the action of the Force – by the amount of motion produced on a certain mass, as for example in the case of gravitation.

Energy is associated with matter or mass, and is a purely physical term; but Force is associated with Substance ; and it is not Matter and Energy which are the real substantialities, but Substance and Force. Not merely is this so, not merely may Matter and Energy disappear from the Universe, but it is even possible to conceive of them as the absence and not the presence of Substance. This, in fact, is what is done in the remarkable theory of the Ether elaborated by Professor Osborne Reynolds,¹ where physical matter is postulated to be a sort of crack, or

fissure, or line of misfit in the substance of the Ether, a void rather than a *plenum*. This is certainly, as Professor Reynolds says, " an inversion of ideas " as to the structure of matter ; but, if interpreted metaphysically, it might be said to come nearer to the Occult teachings than the more orthodox view which would carry the physical idea of mass or inertia right back to Primordial Substance itself.

The Ether which modern Science investigates, however, may possibly be ponderable ; it may possibly, in its *atomic* form, have mass or inertia much greater than physical matter itself ; but then—as we shall see later on—it is, according to the Occult teachings, only a very small remove from

¹ Professor Osborne Reynolds, The Rede Lecture, on " An Inversion of Ideas as to the Structure of the Universe." (Cambridge Press, 1902.)

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physical matter ; and, indeed, really belongs to the physical Plane, and is not the Æther of Space.

Force, according to Occult Science, is the living, moving *Archoeus*, the *Anima Mundi*, the only real substantiality. The connection between this and Primordial Substance is dealt with in our next chapter.

The physicist pure and simple, dealing only with physical phenomena, may possibly rest satisfied with the concept of One Universal Substance existing merely as the substrate of all the different modes of motion with which he is familiar, and possibly of others with which he is not as yet familiar. In this view. Substance would certainly be regarded as altogether inert and dead. Life itself he may thus possibly regard as merely one out of an infinite number of very complex phenomena, as a mere " mode of motion," or " a series of fermentations." But neither the Philosopher nor the Student of Occult Science can rest satisfied with such a partial and incomplete view of the facts which lie before us, the facts of our own experience.

We cannot account for the fact of *Consciousness* in any terms of mere motion of a dead, inert Substance. Certain knots or whirls, let us say, in the Ether constitute electrons, electrons group *themselves* (?) into atoms ; atoms into molecules; molecules into cells; cells into brains; and forthwith they become *aware* not merely of the existence of other "modes of motion," but, *mirabile dictu*, of themselves also.

Now whatever the modern scientist may choose to think, Occult Science has never made the mistake of regarding Primordial Substance as *dead* ; or of looking upon Force, even in its mere physical manifestation, as other than the action of the One Life of the Universe.

For it must be remembered that we have not merely to bring our concept of Primordial Substance into line with the principle of the indestructibility of matter and the said

conservation of energy, but also into line with the great law of evolution.

Evolution is a *cosmic* process. Physical matter, the whole material universe as we know it, must be placed under the operation of that great principle. But if so, and if the *fons et origo* of the great world process is Primordial Substance, then that Substance must contain within itself the potency of all that ever has or ever can appear as phenomena ; the orderly succession not merely of the forms of *life* which we know on this globe, but of the globe itself, of the Solar System, of the whole vast Universe, and of an infinite succession of such Universes in illimitable and endless duration.

We may make our choice. All this great world process is either the result of blind chance and dead mechanical forces, or it is the action of one great Life Principle, of which all that manifests in individual forms of life and consciousness is the reflection. Thus, on the principle of correspondence and analogy, every atom, as well as every complex of atoms, manifests in its own particular degree and kind the *nature* of the Whole. Every atom reflects the whole Universe. How can it be otherwise, since every atom is Primordial Substance ? Get right down to this Substance in the very innermost of the atom, and you will find the Whole.

But with our limited senses we cannot do this. We see the outside of the atom only, or rather we see it only in a certain limited manner in its action and interaction with certain other individual and limited phenomena. In this aspect, the atom, or matter in general, appears to have certain *qualities* ; but let us clearly understand that those qualities are not its intrinsic nature as *Substance*, but are specific and definite *limitations* of that root nature. All these *limitations* are, in fact, not in the atom itself, but in our own consciousness or awareness of it; and the last and final definition of matter can really only

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be a metaphysical one —it is that which is *objective* to consciousness.

“In strict accuracy—to avoid confusion and misconception—the term "Matter" ought to be applied to the aggregate of objects of possible perception, and "Substance" to *noumena*; for inasmuch as the phenomena of *our* plane are the creation of the perceiving Ego—the modifications of its own subjectivity—all the "states of matter representing the aggregate of perceived objects" can have but a relative and purely phenomenal existence for the children of our plane.”
(S.D., vol. I p.329, Ne.)

We may now proceed to set forth from *The Secret Doctrine*, more in detail, this fundamental concept of the nature of Primordial Substance.

CHAPTER III PRIMORDIAL SUBSTANCE

In *The Secret Doctrine* there are three distinctive names or terms used to connote the Root Principle of the Phenomenal Universe, or what we have hitherto termed Primordial Substance.

These three terms are respectively, Mulaprakriti, Akasha, and Æther. They are all practically the same in their physical application, though there are shades of metaphysical difference which are not of much importance to us in this work. Mulaprakriti is a Sanscrit term meaning literally the Root of Nature (Prakriti), or Matter.

Akasha is also a Sanscrit word. It is defined in the *Theosophical Glossary* as " The Universal Space in which lies inherent the eternal Ideation of the Universe in its ever-changing aspects on the planes of matter and objectivity, and from which radiates the First Logos, or expressed thought." It is also defined as, " The subtle, supersensuous spiritual essence which pervades all space the primordial substance erroneously identified with Ether."

Æther is a Greek word, and appears to be more specially associated with the idea of Light—Primordial Light, the Light of the Logos, not our physical light—than with anything else. It has been identified by some writers, such as Eliphas Levi, with the " Astral Light " ; but against this

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identification there are many strong protests in *The Secret Doctrine*.

The distinction between Æther and Ether, which we have already mentioned in Chapter II., must be clearly borne in mind here. Æther is the synonym for Primordial Substance, that Substance which is the Root of all the differentiated forms of Matter which constitute the phenomenal Planes of manifestation.

" Æther, in Esotericism, is the very quintessence of all possible forms of energy, and it is certainly to this Universal Agent (composed of many agents) that are due all the manifestations of energy in the material, psychic, and spiritual worlds." (S.D., vol. I, p. 650. Oe.) (S.D., vol. I p. 508. Ne.)

The use of the term *energy* in this quotation instead of *matter* may be a little confusing until we have clearly understood that in Occult Science matter and energy are at root one and the same thing. This will be more clearly elucidated in our next chapter.

"What is the primordial Chaos but Æther not the modern Ether Æther, with all its mysterious and occult properties, containing in itself the germs of

universal creation ? The upper Æther, or Akasha, is the Celestial Virgin and Mother of every existing form and being, from whose bosom, as soon as 'incubated ' by the Divine Spirit, are called into existence Matter and Life, Force and Action. Æther is the Aditi of the Hindus, and it is Akasha." (S.D., vol. I, p. 354. Oe.) (S.D., vol. I, p. 332. Ne.)

Ether, on the other hand, is one of the lower differentiations of Æther. It is one of the "lower" Planes of the Cosmos, just as physical matter is. It is a later product in the great differentiating process by which all the manifested Universe *evolves* out of the One Primordial Substance Mulaprakriti, Akasha, or Æther – just as a chicken differentiates or evolves out of the primordial substance of the egg. The One Substance " becomes " these lower or later differentiations, these forms in time and space ; but yet it is never other than itself, never other than the One Substance.

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" Akasha is certainly not the Ether of Science—not even the Ether of the Occultist, who defines the latter as one of the principles of Akasha only—it is certainly, together with its primary, the cause of sound, a psychical and spiritual, not a material cause by any means. The relations of Ether to Akasha may be defined by applying to both Akasha and Ether the words used by the God in the Vedas, 'So himself was indeed (his own) son,' one being the progeny of the other, and yet itself." (S.D., vol. I. p. 316. Oe.) (S.D., vol. I. p.296. ne.)

In Occult Science the Ether of Modern Science is identified with physical Plane matter as being simple " higher," or less differentiated forms of that matter ; but *The Secret Doctrine* does not appear to make this absolutely clear. It is, however, implied in the following quotation, where it is called " the grossest form " of Akasha.

"Whatever the views of Physical Science upon the subject, Occult Science has been teaching for ages that Akasha (of which Ether is the grossest form), the Fifth universal cosmic Principle to which corresponds and from which proceeds human Manas is, cosmically, a radiant, cool, diathermous, plastic matter, creative in its physical nature, correlative in its grossest aspects and portions, immutable in its higher principles." (S.D., vol. I. p. 41. Oe.) (S.D., vol. I. p.13. fn. ne.)

The reference here to Akasha as the *fifth* universal cosmic Principle might be a little puzzling if it is not borne in mind that it is here placed fifth —and not seventh—as being that out of which the *four* lower cosmic *Elements*— Fire, Air, Water, Earth— differentiate.

We may now take up the connection of Ether with the Astral Light.

"Ether is one of the lower 'principles' of what we call Primordial Substance (Akasha in Sanscrit), one of the dreams of old, which has now again become the dream of modern Science. It is the greatest as it is the boldest of the surviving speculations of the Ancient Philosophers. For the Occultist, however, both Ether and Primordial Substance are realities. To put it plainly, Ether is the Astral Light, and the Primordial Substance is Akasha, the Uphadi of Divine Thought." (S.D., vol. I. p. 347. Oe.) (S.D., vol. I. p. 326, ne.)

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Here, then, we have the Ether absolutely identified with the Astral Light. We have already seen that Æther is the synonym for Akasha, and the following quotations are a repudiation of any connection between Æther (or Akasha) and the Astral Light.

"As it is shown that Akasha is not even the Ether, least of all then we imagine can it be the Astral Light." (S.D., vol. I. p. 276. Oe.) (S.D., vol. I. p. 255, Ne.)

"Eliphas Levi commits a great blunder in always identifying the Astral Light with what we call Akasha." (S.D., vol. I. p. 275.) ((S.D., vol. I. p. 253. Ne.)

" The Astral Light of the Kabalists is by some very incorrectly translated "Ether," the latter is confused with the hypothetical Ether of Science, and both are referred to by some Theosophists as synonymous with Akasha. This is a great mistake." (S.D., vol. I. p. 315.) (S.D., vol. I. p. 296. Fn. Ne)

The word " Ether " in the above, as translated and spelt by the Kabalists, is of course the Æther of *The Secret Doctrine* – the distinction in spelling not being made by the Kabalists.

"Akasha, then, is Pradhana in another form, and as such cannot be Ether, the ever-invisible agent, courted even by physical science. Nor is it Astral Light." (S.D., vol. I. p. 277.) (S.D., vol. I. p. 256. Ne.)

These quotations appear to make the distinction between the Æther, Ether, and Astral Light quite clear. In *Blavatsky Lodge Transactions* (vol. I. p. 53, Oe.) (p. 64, Ne.)

the Astral Light is further spoken of as the " dregs of Akasa" There is a sentence in vol. II. of *The Secret Doctrine* (p. 538, Oe.) which appears to identify the Akasha with the Astral Light; but we think that the context shows that the term Astral Light is here being used in a higher sense, as "the Universal Cause in its unmanifested unity and infinity" (vol. II p. 512, Ne.)

Now, as regards Mulaprakriti, it is defined in the *Theosophical Glossary* as "The Parabrahmic root, the abstract deific feminine principle – undifferentiated substance. Akasha. Literally, " the root of Nature (Prakriti), or Matter."

Mulaprakriti may possibly be considered – metaphysically – to be on a higher Plane than Akasha ; indeed it is so spoken of in the following quotation :

"The Eternal Parent (Space) wrapped in her Ever-Invisible Robes." . . . The 'Robes' stand for the noumenon of undifferentiated Cosmic Matter. It is not matter as we know it, but the spiritual essence of matter, and is co-eternal and even one with Space in its abstract sense. ... It is the Soul, so to say, of the One Infinite Spirit. The Hindus call it Mulaprakriti, and say that it is the primordial Substance, which is the basis of the Uphadi or Vehicle of every phenomenon, whether physical, psychic, or mental. It is the source from which Akasha radiates," (S.D., vol. I. p. 67. Oe.) (S.D., vol. I. p. 35, Ne.)

Although we are not dealing here with metaphysical shades of meaning, it may be useful for the student of *The Secret Doctrine* to give the following quotation and references bearing upon the relation of Mulaprakriti to Parabrahman – the One Unconditioned Absolute.

" Parabrahman and Mulaprakriti are One in reality, yet Two in the universal conception of the Manifested, even in the conception of the One Logos, the first ' Manifestation,' It appears from the objective standpoint as Mulaprakriti, and not as Parabrahman ; as its veil, and not the One Reality hidden behind, which is unconditioned and absolute." {S.D., vol. I. p. 294, Oe.) (S.D., vol. I. p. 274 Ne.) In Mulaprakriti we have, then, clearly the first abstract concept of Object as contrasted with Subject – that great polarity or duality which enters into all our consciousness and experience of existence. All dualistic systems not merely begin but also end with this polarity or opposition they are never considered as resolvable into, or as mere aspects of, the One Absolute Principle. The Occult teachings, however, are Monistic, not Dualistic.

" Pre-cosmic Root Substance (Mulaprakriti) is that aspect of the Absolute which underlies all the objective planes of Nature." {S.D., vol. I. p. 43. Oe.) (S.D., vol. I. p. 15, Ne.)

"At the commencement of a great Manvantara (Cycle of Evolution) Parabrahman manifests as Mulaprakriti, and then as

the Logos. This Logos constitutes the basis of the subject-side of Manifested Being, and is the source of all manifestations of individual consciousness. Mulaprakriti, or Primordial Cosmic Substance, is the foundation of the object-side of things the basis of all objective evolution and cosmo-genesis. Force, then, does not emerge with Primordial Substance from Parabrahmic latency. It is the transformation into energy of the supra-conscious thought of the Logos, infused,

so to speak, into the objectivation of the latter out of potential latency in the One Reality. . . . Force, thus, is not synchronous with the first objectivation of Mulaprakriti. Nevertheless as, apart from it, the latter is absolutely and necessarily inert a mere abstraction —it is unnecessary to weave too fine a cobweb of subtleties as to the order of succession of Cosmic Ultimates. Force succeeds Mulaprakriti ; but, minus Force, Mulaprakriti is for all practical intents and purposes non-existent (S.D., vol. II. p. 27.) (S.D., vol. II. p. 25, Ne.)

It will now be quite clear that the three terms Mulaprakriti, Akasha, and Æther apply only to the Root of the *phenomenal* Universe. Considered as *Substance*, they are the feminine or passive aspect of the One Incognizable Absolute Principle, which must necessarily remain in *abscondito*, ever concealed behind the " garment " of the phenomenal Universe, or behind Root Substance, out of which that "garment" is formed.

The masculine or "Force" aspect of this Supreme Absolute (Parabrahman) is the Logos, representing the potency of Divine Ideation. In this respect, therefore, the Logos itself is an individualized aspect of the One ; it is that individualized aspect which " becomes," by the process of evolution, an individual Universe. When, therefore, this individual, phenomenal, or manifested Universe springs into existence " in the beginning," we have this dual mode of the One manifesting itself as Force and Substance.

The *Force* is the thought of the Logos, or rather the complete *Idea* of the whole vast Universe which is about to manifest itself in time and space, taking the form of a supreme Divine intelligence which we name the *Logos*. We must look upon this Divine thought or Logos, therefore,

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as the *Primum Mobile*, the moving, energizing Principle, which, as it were, impregnates or fecundates the other aspect of Itself which is Primordial Substance, so that that Substance is thenceforth indistinguishable from the *Primum Mobile* itself.

This repeats itself on Every Plane—in the Microcosm as in the Macrocosm. Behind or within every manifestation of " Matter " lies " Force," and that force is a living, conscious potency —not a mechanical force — whether in Gods, Monads, or Atoms.

"Draw a deep line in your thought between the ever-incognizable Essence and the as invisible, yet comprehensible Presence, Mulaprakriti or Shekinah, from beyond and through which vibrates the Sound of the Verbum (Logos), and from which evolve the numberless Hierarchies of intelligent Egos, of conscious as of semi-conscious ' apperceptive ' Beings, whose essence is spiritual Force, whose Substance is the Elements, and whose Bodies (when needed) are the atoms." {S.D., vol. I, p. 690. Oe) (S.D., vol. I, p. 629, Ne.)

Every Universe, however vast, or however long it may take to run its course of evolution and devolution, we can but regard as a single thought, a single idea in the Infinite All of the One Absolute Principle.

Each Universe being thus a single individualized *thing*, the Absolute Itself remains ever concealed behind it ; and, in a certain sense, even outside of it ; being, indeed, both immanent and transcendental.

If now, however, we regard only one particular Universe, our Primordial Substance will stand in the same relation to that Universe as the One Absolute Principle does to all possible Universes. The Primordial Substance of any particular Universe is as it were the germ-plasm of that universe already fructified by the male potency of the Divine Ideation.

When once, therefore, this fructification has taken place in the " Mundane Egg," we may now regard the Substance of that " egg " – Mulaprakriti, the Root of Nature – as that

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out of which the whole Universe springs or evolves, and to which it must finally return when the great cycle has run its course.

In a certain sense we may conceive of the divine thought of the Logos as still energizing and sustaining the whole, as still operative in Primordial Substance *per se*. But as we are desirous of not drawing too fine a metaphysical distinction, we need not labour the point.

What we do desire, however, to make abundantly clear is this : that when we go right back to Primordial Substance in its source and origin, we are dealing with a Divine Living Substance, and a Divine Potency.

"A cosmogonical theory, to become complete and comprehensible, has to start with a Primordial Substance diffused throughout boundless Space, *of an intellectual and divine nature*. That Substance must be the Soul and Spirit, the Synthesis and Seventh Principle of the Manifested Kosmos, and, to serve as a spiritual Upadhi (Basis) to this, there must be the sixth, its vehicle – Primordial Physical Matter, so to speak, though its nature must escape for ever our limited normal senses." (S.D.,vol. I. p. 650. Oe) ((S.D.,vol. I. p. 594, Ne.)

We have in the above quotations a very clear indication of the primary and fundamental concept of Occult Science respecting the ultimates of what we know as Matter and Force.

In the way they are here stated they are pure philosophical concepts, free from any special bias pertaining to any particular system of either Science, Philosophy, or Religion. It asserts simply that the Universe is the expression of Life, Thought, Consciousness. These are the energizing, guiding Principle in all Cosmic Processes, whilst that which appears under the guise of Matter is the objective

correlative of this primary activity of the One Life, or Be-ness.

We might even replace the idea of *Life* by that of *Motion*, but in doing so we should still have to postulate that that Motion—Absolute, Abstract Motion—is on the

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one side Subject, or Consciousness, and on the other side Object, or Matter.

"What, then, is the 'Primordial Substance,' that mysterious object of which Alchemy was ever talking, and which was the subject of philosophical speculation in every age ? What can it be finally, even in its *phenomenal* pre-differentiation ? Even that is the All of manifested Nature and nothing to our senses. It is mentioned under various names in every cosmogony, referred to in every philosophy, and shown to be, to this day, the ever grasp-eluding Proteus in Nature. We touch it and do not feel it ; we look at it without seeing it ; we breathe it and do not perceive it ; we hear and smell it without the smallest cognition that it is there ; for it is in every molecule of that which, in our illusion and ignorance, we regard as Matter in any of its states, or conceive as a feeling, a thought, an emotion. In short, it is the Uphadi, or Vehicle, of every possible phenomenon, whether physical, mental, or psychic. In the opening sentences of *Genesis*, and in the Chaldean Cosmogony; in the *Puranas* of India, and in the *Book of the Dead of Egypt* ; everywhere it opens the cycle of manifestation. It is termed Chaos, and the Face of the Waters, incubated by the Spirit, proceeding from the Unknown, whatever that Spirit's name may be." (S.D., vol. I. p. 352. Oe.) (S.D., vol. I. p. 330, Ne)

CHAPTEE IV THE SUBSTANTIAL NATURE OF FORCE

All objective phenomena with which we are acquainted, or which we can possibly conceive of, require a minimum of two factors for their production.

These two factors are (a) something which moves, i.e., Matter, and (b) something by which it is moved, i.e., Force.

We have always, then, to look upon Force as in a certain sense superior to Matter, in so far as it is the active principle, while Matter is, in its relation to Force, passive, receptive, or inert.

But if we postulate a Primordial Force-Substance, we lose sight of this distinction ; Force is, in that Substance, indistinguishable from the Substance itself.

On the further side, on the *noumenon* side of this Sub-stance, we have, as already seen, been able to postulate the energy of Divine Thought or Ideation as the active moving principle ; but when once this Principle has energized in Substance, it is indistinguishable from the Substance itself.

In more conventional language we should in fact say, that in the phenomenal world God is indistinguishable from Nature, His action only being known or recognized as natural law.

How, then, do we recover the distinction between Force

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and Matter on this side – the *phenomenal* side – of Substance ?

There are two ways in which we may conceive of this as being done. In the first place we may conceive that so soon as any particular *form* of motion arises in Primordial Substance, constituting thereby "Matter," the original Primordial Substance will stand in the relation of " Force " to this "Matter." We shall then have two *Planes* of Substance, one of which, the " higher," will stand in a force-relation to the other, the "lower" or material Plane. Such a relationship, indeed, as this is precisely what we have in the relation of Ether to physical matter. Physical matter is Ether in substance – a special form or mode of Ether – but the Ether itself stands in a force-relation to the lower or material Plane.

We may conceive, indeed, of several such Planes existing in the Cosmos, each one being a special modification of Primordial Substance, and each " higher " Plane having a force-relation to the ones below it, while at the same time it is itself a "material" Plane to those above it. This concept, as shown in Chapter IX., is a fundamental one in Occult Science.

In the second place we may conceive that certain forms or modes of motion of the One Substance constitute Matter, while certain other forms or modes constitute Force ; and this may be the case even on any one particular Plane. Thus on the Etheric Plane certain forms of Motion constitute physical matter, while others are light, heat, electricity, magnetism, etc. (see quotation from Sir Oliver Lodge, p. 15).

If we ask why certain forms of motion should be objective to our consciousness, and thus constitute matter, while other forms of the same Substance are subjective, and constitute force or forces, we can only reply that such is the empirical fact of our Consciousness. Quite conceivably there may be other modes of Consciousness to which those

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forms of motion which are to us invisible forces would be objective forms of matter ; and indeed, that such is the case is the specific teaching of Occult Science.

"The Occultists, who have good reasons for it, consider all the forces of Nature as veritable, though supersensuous, states of Matter ; and as possible objects of perception to beings endowed with the requisite senses." (S.D., vol. I. p. 167. Oe.) (S.D., vol. I. p. 143, fn Ne.)

"The latter (Occultism) maintains that those etheric tremors (light, heat, etc.) are not set up, as asserted by Science, by the vibrations of the molecules of

known bodies, the Matter of our terrestrial objective consciousness, but that we must seek for the ultimate Causes of light, heat, etc. in Matter existing in supersensuous states, — states, however, as fully objective to the spiritual eye of man as a horse or a tree is to the ordinary mortal. Light and heat are the ghosts or shadows of Matter in Motion." (S.D., vol. I. p. 561. Oe.) (S.D., vol. I. p. 515, Ne.)

Every individual mode of motion in the One Substance must necessarily be a centre of Force, or a mode of Force but it is only those particular centres or modes which are objective to our present consciousness which we erroneously call Matter. Since the discovery of *electrons*, however, Science has come distinctly nearer to the Occult teachings, and, indeed, the present conflict of views among physicists themselves is between those who would still cling to a material particle *per se*, and those who regard the *electron* merely as a "centre of force," or "nucleus of intrinsic strain" in the substance of the Ether.

So far, however, as our physical distinctions are concerned, we find that our chemical atoms and molecules and even the electrons — are distinct or discrete objects, which may be acted upon, singly or in bulk, by other modes of motion of Substance which we designate as " Forces." To that extent, therefore, and neglecting the internal motion of the atom or molecule, these forms of matter assume a passive or inert appearance, that aspect in fact which we commonly associate with the idea of Matter. In itself, in its own inherent nature, Matter has as much claim to be a " Force " as anything else ; and equally

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every " Force " has as much claim to a substantial nature as that which we call " Matter."

"Now what does physical Science tell us of these 'Forces,' Sound, Light, Colour, etc. ? Sound, it says, is a sensation produced by the impact of atmospheric molecules on the tympanum, which, by setting up delicate tremors in the auditory apparatus, thus communicate their vibrations to the brain. Light is the sensation caused by the impact of inconceivably minute vibrations of ether on the retina of the eye. So, too, say we. But these are simply the effects produced in our atmosphere and its immediate surroundings; all, in fact, which falls within the range of our terrestrial consciousness." {S.D., vol. I. p. 605. Oe.) (S.D., vol. I. p. 554, Ne.)

"Electricity, light, heat, etc. have been aptly termed the 'Ghosts or Shadows of Matter in Motion,' i.e., supersensuous states of Matter whose effects only we are able to cognize." (S.D., vol. I. p. 170. Oe.) (S.D., vol. I. p. 146, Ne.)

"Faraday, Boscovitch, and all others, however, who see in the atoms and molecules 'centres of force' and in the corresponding element. Force, an Entity by itself, are far nearer the truth." {S.D., vol. I. p. 552. Oe.) S.D., vol. I. p. 507, Ne.)

"If they (the men of Science) would fathom the ultimate nature of these Forces,

they have first to admit their substantial nature, however supersensuous that nature may be." (S.D., vol. I., p. 560. Oe.) (S.D., vol. I. p. 514, Ne.)

" The Occult Sciences do not regard either electricity, or any of the Forces supposed to be generated by it, as Matter in any of the states known to Physical Science ; to put it more clearly, none of these Forces, so-called, is a solid, gas, or fluid. If it did not look pedantic, an Occultist would even object to electricity being called a fluid – as it is an effect, not a cause. Its Noumenon is a Conscious Cause." (S.D., vol. I. p. 563. Oe.) (S.D., vol. I. p. 517, Ne.)

It should be noted here, and clearly understood, that in speaking of *Causes*, *The Secret Doctrine* is in almost every case dealing with the *Noumenon* of phenomena, and not with what we conventionally term the cause of a certain event.

We may distinguish clearly between two kinds of causes of any particular event or phenomenon. We have, in the first place, the immediate cause, as something which takes place sequentially in *time*; as, for example, if I strike a bell, the *cause* of the sound may be said to be my act. The

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blow which I give to the bell causes it to vibrate; these vibrations are communicated to the atmosphere, and propagated as sound waves. They impinge upon your tympanum, and are the *cause* of your hearing the bell sound. In the molecules and cells of your brain other things happen ; there is in fact a never-ending sequence of cause and effect, each effect becoming in its turn the cause of a further effect. This we may call the horizontal line of cause and effect in time.

But besides this there is, in the second place, another set of causes : for we may go back to our bell, and ask why it should vibrate in a certain way, so as to give out a certain sound ? What is its molecular and atomic structure which enables it to vibrate thus ? What are the atoms and molecules themselves that they can vibrate at all, and how can the vibrations be communicated thus to the atmosphere ? These, and a host of similar questions, take us as it were into another region or dimension of causes, in quite a different direction to our horizontal line of sequence in time. There is no sequence here ; the questions are wholly connected with the *nature* of matter or substance, with the nature of force : and to answer them we have to look for cause in an inward direction, in a line which goes to the root of these phenomena, a root which lies in space, not in time. It is an ever-present cause; it is here and now at every moment of time. We might symbolize it, therefore, by a vertical line, at right angles to our horizontal line of cause and effect.

On this line of causes, also, we should have to look for the answer to the question as to what we—the conscious subject who can *hear* the sound—are, whereby we can be aware of phenomena at all.

In speaking, then, of " the Causes that produce ethereal vibrations," or of electricity as being "an effect, not a cause," *The Secret Doctrine* is dealing with the vertical line of cause and effect, and not with the horizontal one.

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If we produce ethereal vibrations by Marconi apparatus, for example, we shall be dealing, on the other hand, with the horizontal line.

The following quotations may be given in further exposition of the point of view of *The Secret Doctrine* as to the nature of Force, or Energy, in its relation to Matter, or Substance.

" Nevertheless that which is called ' energy ' or ' force ' in Science is never in fact, and cannot be, energy alone for it is the Substance of the world, its Soul, the All-permanent, Sarvaga (the supreme ' World- Substance'), in conjunction with Kala, Time." {S.D., vol. I. p. 637. Oe.) (S.D., vol. I. p. 582, Ne.)

" It (Modern Science) might learn, for instance, the mystical signification, alchemical and transcendental, of the many *imponderable* substances that fill interplanetary space, and which, interpenetrating each, are the direct cause, at the lower end, of the production of natural phenomena manifesting through so-called vibration. The knowledge of the *real*, not the hypothetical nature of Ether, or rather of the Akasha, and other mysteries, in short, can alone lead to the knowledge of Forces." (S.D., vol. I. p. 641. Oe.) (S.D., vol. I. p. 587, Ne.)

" No experimenter can have anything to do with matter properly so termed, but only with the forces into which he divides it. The visible effects of matter are but the effects of force. . . . That which is now called matter is nothing but the aggregation of atomic forces, to express which the word ' matter is used ; outside of that, for science' matter is but a word void of sense." {S.D., vol. iii. p. 398.)

The Primordial Substance – otherwise the Ether – which modern Science conceives of, is postulated as being "perfectly homogeneous and continuous and simple in structure " ; in other words it is conceived of as in some sense *all-alike* ; and this idea replaces the old theory of the *all-alike* ultimate particles or atoms. But Modern Science has no concept to offer as to how this *all-alike* Substance can differentiate into all the various modes of force and forms of matter, visible and invisible, which constitute our present Universe, or how any process of evolution could commence at all in such an

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all-alike Substance without the aid of some extraneous *Force* – not to mention Conscious Intelligence.

Even if we confine ourselves to a purely physical idea of the One Substance, is it not self-evident that that Substance can no more be all-alike, or " simple in structure," than is the impregnated germ-cell which presently evolves into a plant or a human being ?

Modern Science, however, is still a long way from the fundamental concept of Occult Science : that one particular Universe, or one particular Solar System, with all its special characteristics, evolves as inevitably from one particular nucleus of Primordial Substance –vivified or energized by one particular Logos—as one particular individual human being does from one particular germ-cell.

We must deal briefly with the general scheme of Cosmic Evolution as set forth in *The Secret Doctrine* before we proceed to consider more specifically these forms of matter and force with which we are directly acquainted on the Physical Plane, or through our physical senses.

CHAPTER V THE DAWN OF EVOLUTION

Although not strictly belonging to the province of Physics, but rather to Metaphysics, the early stages in the evolution of a Cosmos or Manifested Phenomenal Universe –or, by correspondence and analogy, of a Solar System as set forth in *The Secret Doctrine*, demands a brief exposition, since it is the key to the understanding of all the later processes.

In Occult Philosophy everything which has a *phenomenal* existence in time and space is subject to the law of evolution or periodicity; its existence in the phenomenal form is temporary and finite.

Every phenomenon may be considered under two aspects: (a) as an individual *thing*, that is to say in its own particular or individual history; and (b) in its relation to some larger unit of which it is a part.

It becomes an individual *thing* to the extent to which it is differentiated out, separated, or limited (in consciousness), and thus put into contrast with other phenomena. But it can never be an individual or separate thing *per se* ; we can never analyse it as such to finality ; its connections and relations extend to infinity.

Science finds certain principles operative in all known phenomena, and from this fact deduces a fundamental relationship, or a unity of all phenomena in One Root Principle –Primordial Substance. Every individual *thing*

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must be some mode or aspect of this One Root Substance, and thus there does not really exist in the Universe any individualized or separate thing : a *thing*, namely, existing in or by itself without any fundamental and inseparable connection or relation with all other *things* (things) ; such a thing, that is to say, as could be wholly, fully, or completely explained in or by itself, without any reference to anything else. Every thing owes its *thingness* to the limitations under which it is cognized by Consciousness; or, in other words, to the way in which we *think* of it. If we could see and know a thing in all its relations and proportions—the " thing in itself " –it would disclose to us the whole Universe,

past, present, and future.

We have already seen that Occult Science, recognizing this fundamental and essential Unity, cannot regard any phenomenon, however vast, as other than an individual *thing*; an individualized aspect of the One. For Occult Science, therefore, the whole Manifested Universe is an individual *thing*; any one particular Universe, however long it may last, is merely an individualized or phenomenal aspect of the One Absolute Existence, and as such it is temporary and finite.

" Further, the Secret Doctrine affirms the Eternity of the Universe *in toto* as a boundless plane ; periodically ' the play ground of numberless Universes incessantly manifesting and disappearing,' as the *Book of Dzyan* puts it : ' The appearance and disappearance of Worlds is like a regular tidal ebb of flux and reflux.'" (S.D., vol. I. p. 45. Oe.) (S.D., vol. I. p. 16, Ne.)

This individualised aspect, or Divine *Idea*, of any one particular Universe is represented in the first instance by the Logos of that Universe, which is thus the Divine Potency of all that is or can be in that particular Universe. The unfolding of that *Idea*, or the manifestation of it in Consciousness through the modes of time and space, constitutes the process which we know as Evolution.

What we know as Evolution, however, is only half the

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process ; for evolution, or unfolding, must be followed by devolution or involution : a withdrawing or return into the original source ; a re-becoming the One —in consciousness for it never is in *reality* other than the One—an idea which, even in its physical sense, modern science has not yet arrived at.

This cyclic process of evolution and devolution, or involution, takes place correspondingly in all the lesser cycles and on all planes. Physical matter, for example, has evolved out of etheric substance, and in course of time it must return or be redissolved into that substance. The disintegration of the chemical atom as observed in the phenomenon of Radium, and some other substances, is in fact the evidence that that process is even now going on.

We have seen (p. 34) that the individualized *Idea* of the Universe that is about to evolve —represented by the Logos—is, in its first *objective* aspect, Mulaprakriti, or Primordial Substance. This Substance is the "Body" or " Garment " in which the Idea clothes itself ; and as the Idea itself is a Living Potency, so also the "Body" is Living Substance.

In the view of Occult Science all Substance, all Matter, is living Substance and living Matter. Occult Science does not recognize the arbitrary distinctions which Modern Science makes between living and dead matter, for these are based merely upon the limitations of our sense perceptions.

"The Matter of Science may be for all objective purposes a dead and utterly-passive matter ; to the occultist not an atom of it can be dead—Life is ever present in it." (S.D., iii. p. 399. ?) (S.D., vol. II. p. 672, Ne.)

Now just as the germ-cell of a plant, an animal, or a man is composed of *living* matter, or substance, and has within it the *potency* to evolve a special manifestation of *life*, and a particular or special species and individual, so also in Occult Science the Primordial Substance of a Universe, or of a Solar System, impressed or impregnated

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with the Living Potence of the Divine Idea or Logos, is the *Germ-Cell* of the Universe or System that is to be, that is to evolve or unfold in time and space. Just as the human being is, in fact, already contained potentially in the single germ-cell, so also the Universe is already contained in this Primordial Substance, and must as inevitably evolve therefrom in its own particular manner, as the individual man, with all his special characteristics, must from his own particular germ-cell.

Thus the Universe in embryo in Primordial Substance is often spoken of in Occult Science as the " World Egg," or " Mundane Egg," and in Eastern Philosophy as the " Egg of Brahma." The idea is embodied in a very great deal of ancient Symbology.

" The ' World Egg ' is, perhaps, one of the most universally adopted symbols, highly suggestive as it is, equally in the spiritual, physiological, and cosmological sense. Therefore it is found in every world theogony, where it is largely associated with the serpent symbol, the latter being everywhere, in philosophy as in religious symbolism, an emblem of eternity, infinitude, regeneration, and rejuvenation, as well as of wisdom. The mystery of apparent self-generation and evolution through its own creative power, repeating in miniature, in the egg, the process of cosmic evolution —both due to heat and moisture under the efflux of the unseen creative spirit —fully justified the selection of this graphic symbol." (S.D., vol. I. p. 94. Oe.) (S.D., vol. I. p. 65, Ne.)

At the commencement of evolution, then, at the commencement of the great World Process for any particular Universe or System, this " Mundane Egg," the substance of which is Mulaprakriti, begins to germinate or differentiate and we have to ask ourselves what will be the first stages of this process.

Applying the principle of correspondence and analogy, we shall find that the first differentiations in or of the " World Egg " or Substance must be of such a nature as to be hardly distinguishable from the original Substance. In other words, the One Root Substance must differentiate into some great *Cosmic* forms or modifications long before

it differentiates into the complex atoms and molecules of our lower physical Plane.

As the One Life is also apparently differentiated or individualized *pari passu* with this separation or individualization of Substance—*seeing* that we have "down here apparently individual *lives* associated with individual forms of matter—we should also postulate that just as the Logos—so far as we are concerned—is practically identical with, and indistinguishable from, the One Absolute, so also the first differentiations from the Logos will be practically indistinguishable from the Logos itself. In other words, the highest individualized aspects of the Logos will be *almost* universal in their nature and powers, and in the *Substance* which is their outer garment and manifestation.

They will, in fact, be Divine Intelligences or Powers, each one, however, to a certain extent specialized in its nature, though practically reflecting the whole. Occult Science thus postulates that, since at the root of All there stands the One LIFE, so at the root of every specialized or individualized phenomenon there stands a life.

"The Occultists maintain that all the 'Forces' of the Scientists have their origin in the Vital Principle, the One Life collectively of our Solar System—that 'Life' being a portion, or rather one of the *aspects*, of the One Universal Life." (S.D., vol. I. p. 647. Oe.) (S.D., vol. I. p. 591, Ne.)

"The Life-Principle, or Life Energy, which is omnipresent, eternal, indestructible, is a Force and a Principle as *noumenon*, while it is *Atoms*, as phenomenon. It is one and the same thing, and cannot be considered as separate except in Materialism." (S.D., vol. II. p. 710. Oe.) (S.D., vol. II. p. 672, Ne.)

In the first differentiations or individualizations, therefore, of the One Life (or of the Logos) we shall have *Cosmic* forms of Life and Consciousness, and also *Cosmic* forms of Substance, quite beyond the reach, however, of our understanding and cognizance in anything which we know as Life and Consciousness, or as Matter or Substance, within the limits of our physical experience.

These primal differentiations or individualizations of the

One Life of our Universe are variously named in different systems of Cosmogony and Theogony, but in *The Secret Doctrine* they are usually referred to as *Dhyān Chohans*, a Sanscrit term meaning literally "The Lords of Light." They are the *Noumenon* of all the various Forces in Nature, while their "bodies" are those special differentiations of Primordial Substance which are known in Occult Science as the *Elements* (not the chemical elements), these *Elements* being as yet unknown to modern Physical Science, but frequently referred to by the Ancients

and the Alchemists. We shall consider the nature of these Elements more fully in our next chapter.

" Occultism sees in all these Forces and manifestations a ladder, the lower rungs of which belong to exoteric Physics, and the higher are traced to a living, intelligent, invisible Power, which is, as a rule, the unconcerned, but, exceptionally, the conscious Cause of the sense-born phenomena designated as this or that natural law." {S.D., vol. I. p. 605, Oe.) (S.D., vol. I. p. 554, Ne)

We have the exact correspondence and analogy of this in our own individual life and consciousness in its relation to the physical body. Every thought, or every conscious act of will on our part, is the *cause* of certain definite physiological changes, which in their last analysis as mere *physical* happenings are simply molecular and atomic *chemical* changes. Blank Materialism postulates these molecular and atomic changes as the *cause* of consciousness. " The peculiar phenomena of consciousness," says Haeckel, "must be reduced to the phenomena of physics and chemistry."¹ No Materialist, however, has ever shown logically how any aggregate of *dead* atoms can be *aware* of other aggregates of similar atoms ; how any aggregate of dead atoms, that is to say, can have the simplest possible characteristic of consciousness, i.e., awareness –not to mention those higher characteristics which we know ourselves to be in possession of, i.e., thought, will, emotion.

¹ Riddle of the Universe, 6d. ed., p. 65.

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Modern Science, in its analysis of bodily functioning, stops short at the atoms and molecules; it can only deal with physiological functioning, in the last resort, as a matter of physics and chemistry. Nevertheless, even modern Science is aware there are other subtle " forces " operating in the body; that at least the brain, spinal column, and nerves are the medium and channels for the transmission and play of currents which are supposed to be of an electrical (i.e., etheric) nature. So also, in its analysis of the Macrocosm, modern Science stops short at motion of hypothetical *atoms* – though even these can find no ground or explication apart from the hypothetical Ether, which stands in the relation of *force* to physical matter.

Occult Science, on the other hand, deals definitely with the inner and more subtle *bodies* or vehicles of the conscious Monad or Ego, and sees in physiological functioning, as well as in thought, the operation of these inner substantial bodies, which correspond to and are formed of definite modifications of the one Root Substance constituting the great Cosmic Planes of Matter or Substance.

All these *bodies* interpenetrate and act and react with each other in any single bodily function ; but physical science – dealing only with physical matter – is

naturally unable to detect the inner subtle body, which stands in the relation of a *force* to the matter of which the physical body is built up.

We have, indeed, already shown that these *forces* are just as substantial as physical matter itself. In their *cosmic* aspect, as Planes of Substance, they are the "*bodies*" of the great Cosmic Powers and Intelligences now alluded to.

When those *forces* which we call thought, will, or emotion come into play in ourselves, certain physiological happenings take place in our brain-cells and physical body ; but of the physiological details of these happenings we are normally wholly unconscious, even when we are not totally ignorant of their nature.

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What we call "we," the conscious, thinking Ego, is the *cause* of these physical happenings ; but we are normally all unconscious—having our own *cosmic* affairs to attend to of the effects which our thought, will, desire, or emotion produces in the cosmos of our bodies, among the millions of millions of *lives* which inhabit, and build up, and function in our organism.

Thus we stand in the same relation to the cosmos of our bodies as the Logos does to the Cosmos as a whole, or as any of the lower "*living, intelligent, invisible Powers*" of the Occult Philosophy do to their own particular part of that Cosmos. They are spoken of as the "*unconcerned, but, exceptionally, the conscious Cause of the sense-born phenomena designated as this or that natural law.*"

On the other side we—in our normal limited and restricted consciousness — know nothing of the Cosmic Life of those Divine Intelligences whose "*bodies*" are the Manifested Universe, and whose "*thoughts*" are the Cosmic Happenings. So also the cells, or blood corpuscles, or microbes of our bodies —each one individually a conscious *life* —know nothing of *us*, of our cosmic affairs, or of the nature of that thought or emotion of ours which is life or death to them, or which causes innumerable physical happenings in their own immediate environment and universe.

Even as our objective nature, any body which we may possibly possess — physical, astral, or mental—is formed out of the One Substance, so that we literally live *in the bodies or body* of the Logos, so also our subjective nature, our life and consciousness, must be rooted and grounded therein. If we could trace back our life and consciousness to its root, we should as inevitably find that it was one with the larger life and consciousness of the Logos, as we should find that all the substance of our body is the One Primordial Substance, could we but analyze it to its inmost root and source; to that which it is in its inherent indestructible nature, and not in its mere phenomenal form.

We have already seen that, " minus Force, Mulaprakriti is for all practical intents and purposes non-existent " (S.D., vol. II. p. 27, Oe.), (S.D., vol. II. p. 25, Ne.) and we may equally say that for all practical intents and purposes Force without Mulaprakriti is also non-existent.

In other words, when we come to deal with Primordial Substance as the Root or commencement of that vast process of differentiation or evolution which brings the phenomenal Universe into existence in all its complexity, we are dealing with a Force-Substance, with a self-moving Archæus ; and since every individualized phenomenon every form of " matter " – 'is Primordial Substance, it must have Force – or Life – inherent in it, and this Force manifests itself to us as inherent *Motion*.

"The One Life, eternal, invisible, yet omnipresent, without beginning or end, yet periodical in its regular manifestations. . . . Its one absolute attribute, which is Itself, eternal, ceaseless Motion, is called in esoteric parlance the Great Breath, which is the perpetual motion of the Universe, in the sense of limitless, ever-present Space. That which is motionless cannot be Divine. But there is nothing in fact and reality absolutely motionless within the Universal Soul."

"From the beginning of man's inheritance, from the first appearance of the architects of the globe he lives on, the unrevealed Deity was recognized and considered under its only philosophical aspect – Universal Motion, the thrill of the creative Breath in Nature. Occultism sums up the One Existence thus *Deity is an arcane, living (or moving) Fire, and the eternal witnesses to this unseen Presence are Light, Heat, Moisture* – this trinity including, and being the cause of, every phenomenon in Nature. Intra-cosmic motion is eternal and ceaseless ; cosmic motion – the visible, or that which is subject to perception – is finite and periodical. As an eternal abstraction it is the Ever-Present ; as a manifestation, it is finite both in the coming direction and the opposite, the two being the Alpha and Omega of successive reconstructions." (S.D., vol. I. p. 32.) (S.D., vol. I. p. 2, Ne.)

We may, therefore, quite consistently, in all the lower or later stages of the evolutionary process, lose sight of our original distinctions as to the duality of Force and Substance, and we may deal with Substance only, remembering, how-

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ever, that this Substance, whatever phenomenal form it may assume, whether that of "Gods, Monads, or Atoms," of Cosmic Elements or chemical molecules, can never be a dead thing, but must have within it this inherent *Motion*, which, in its highest aspect, is the Living Power of the Divine Thought of the Logos.

At this stage, therefore, we may conveniently leave our primary and fundamental distinctions, and deal with the evolutionary process as simply a differentiation of Primordial Substance. From this point, indeed, we may even

find ourselves more or less in agreement with purely materialistic science, for we shall now be dealing with a Force-Substance, a Substance in which Force or Motion is inherent, and from which it is indistinguishable.

The two factors which we have to deal with in all phenomena, considered as objective realities, are, in fact. Substance—or Matter—and Motion. These two factors are not merely found as a final analysis, but they must necessarily be present in every part, in every individual phenomenon. Let us repeat : all " Matter " is Force- Substance, and all " Force " is Substance-Force.

" To Occult Science, force and matter are only two sides of the same substance." (S.D., vol. I. p. 683. Oe.) (S.D., vol. I. p. 623, Ne.)

From this starting-point, then, we may view the great World Process of evolution as a process of differentiation setting in the Prima Materia of this present Universe or by correspondence and analogy, in the first nucleus of Cosmic Matter (Nebula), which will presently become a Solar System. This process results in the first instance in the formation of the great Cosmic *Elements* and *Planes*, and subsequently of various forms of atomic and molecular matter, such as we are now familiar with on this Globe as the various chemical elements.

CHAPTER VI THE COSMIC ELEMENTS

Modern Science may now be said to have recognized clearly that all the various kinds of matter with which we are physically acquainted, and which go by the name of chemical *elements*, have been derived or evolved by some cosmic process from or in one primitive Substance, to which Sir Wm. Crookes, as far back as 1886, gave the name of *Protyle*.

This also has always been the teaching of Occult Science but Occult Science says that the Protyle of our physical matter is not the Primordial Root Substance of the Universe, but is itself a cosmic differentiation of that Substance ; and further, that there are several other such differentiations, forming what are known in general as the great Cosmic Planes of Substance.

" There are thus Seven Protyles — as they are now called, where-as Aryan antiquity named them the Seven Prakritis, or Natures — serving severally as the *relatively* homogeneous bases, which in the course of the increasing heterogeneity, in the evolution of the Universe, differentiate into the marvellous complexity presented by phenomena on the planes of perception. The term ' relatively ' is used designedly, because the very existence of such a process, resulting in the primary segregations of undifferentiated Cosmic Substance into its septenary bases of evolution, compels us to regard the Protyle of each plane as only a *mediate* phase assumed by Substance in its passage from abstract into full

objectivity. . . . The incipient segregation of primordial matter into atoms and molecules takes its rise subsequent to the evolution of our Seven Protyles." (S.D., vol. I. p. 350. Oe.) (S.D., vol. I. p. 328, Ne.)

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Man possesses appropriate faculties—mostly dormant or latent in our present Humanity—for a definite objective knowledge of all these Planes, but those which lie beyond or "outside" (in reality *within*) the physical Plane are naturally beyond the reach of any possible physical mode of investigation ; they can only be known by their *effects* in or upon physical matter.

Thus there are several " Protyles " in the Universe ; as many Protyles in fact as there are Planes, because the Protyle of any particular Plane is the root Substance of that Plane, and stands in the same relation to all the " matter " of that Plane i.e., to all the subsequent differentiations or evolution of matter—as the One Primordial Substance does to all the Universe. The Protyle of any particular Plane is in fact the ultimate form of Matter on and for that Plane, and, as such, it is *relatively* simple and homogeneous.

" There are several protyles in Nature, corresponding to the various planes of matter. The two sub-physical elemental kingdoms, the plane of mind, Manas or fifth-state matter, as also of Buddhi, sixth-state matter, are each and all evolved from one of the six protyles which constitute the basis of the Objective Universe. The three ' states,' so called, of our terrestrial matter, known as the 'solid,' 'liquid,' and 'gaseous,' are only, in strict accuracy, *sub-states*." (S.D., vol. II. p. 778. Oe.) (S.D., vol. II. p. 737, Ne.)

It may be noted that in this quotation only six Protyles are mentioned, whereas in the previous one we have seven. This is because in the one case the Root Cosmic Substance is not reckoned as a Protyle, while it is so reckoned in the first quotation. Strictly speaking, of course, the One Root Primordial Substance is not a Protyle, neither is it a Plane, these latter being *subsequent* differentiations of the One. It is often convenient, however, to speak of the One as the highest Plane.

We have now, therefore, to conceive that "in the beginning," i.e., at the commencement of any particular evolutionary cycle, either for a Universe or a Solar System,

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Primordial Substance exists in a —phenomenally—undifferentiated condition, just as a germ-cell does.

Dealing, then, merely with the phenomenal or Substance side of the process, and leaving out of account all question as to the Life and Consciousness which lies within, or on the other side, as it were, of the Phenomenal Universe, as the *Primum Mobile* thereof, we find the teaching of Occult Science to be, that the first process of differentiation in and of Primordial Substance results in the formation

of the great Cosmic *Elements*, or the " Seven Protyles " –the original Substance itself being reckoned as one.

It is usual, however, to enumerate only five of these (sometimes only four). The reason for this is given in the following quotation :

" Occult Science recognizes *seven* Cosmic Elements –four entirely physical, and the fifth (Ether) semi-material, which will become visible in the Air towards the end of the Fourth Round, to reign supreme over the others during the whole of the Fifth. The remaining two are as yet absolutely beyond the range of human perception. They will, however, appear as presentments during the Sixth and Seventh Races of this Round, and will be fully known in the Sixth and Seventh Rounds respectively." {S.D., vol. I. p. 40. Oe.) (S.D., vol. I. p. 12, Ne.)

The four elements which are here spoken of as " entirely physical " are those commonly known as Earth, Air, Fire, and Water.

The Ancients and the Alchemical Philosophers laid great stress upon these *Elements*, but so long as these terms were merely supposed to refer to our known physical " elements," or rather *states* of matter, the significance of the ancient teaching was by no means apparent ; indeed, modern Science not merely rejects the classification, but regards it as one indicating a very inferior knowledge. With a clear understanding, however, of what is really meant by these *Elements*, the question assumes quite a different aspect. Our physical *states* of matter (" in strict accuracy, *substates* ") are only the corresponding or analogous states of

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matter, *on our physical plane*, to the *cosmic* states which constitute the real *Elements*.

It must be remembered that all real knowledge of these matters belonged in Ancient and Medieval times to Occult Schools of Initiation, and the form in which they were given out, or committed to writing, was always one of allegory and symbolism. There is a reference to this in the following quotation :

" Now, speaking of Elements, it is made the standing reproach of the Ancients that they supposed their elements simple and un-decomposable. . . . Once more this reproach against the Ancients is an unwarrantable statement. Their initiated philosophers, at any rate, can hardly come under such an imputation, since it is they who have invented allegories and religious myths from the beginning. Had they been ignorant of the Heterogeneity of their Elements, they would have had no personifications of Fire, Air, Water, Earth, and Æther ; their cosmic gods and goddesses would never have been blessed with such posterity, with so many sons and daughters, Elements born *from* and *within* each respective Element. Alchemy and Occult phenomena would have been a delusion and a snare, even in theory, had the Ancients been ignorant of the potentialities and correlative

functions and attributes of every element that enters into the composition of Air, Water, Earth, and even Fire –the latter a *terra incognita* to this day to Modern Science, which is obliged to call it motion, evolution of light and heat, state of ignition defining it by its outward aspects, in short, in ignorance of its nature." {S.D., vol. I. p. 164. Oe.) (S.D., vol. I. p. 141, Ne.)

It is one of the great contentions of *The Secret Doctrine* that a real knowledge of the constitution of the Cosmos is hidden away in Ancient Symbolism and Mythology, whereas the common idea is that the gods and goddesses of the Ancient Cosmogonies were mere vulgar anthropomorphisms.

This contention may be better recognized, perhaps, when we have clearly understood that the real *Elements* are not *physical* at all, but are the *noumenon* – the informing, energizing *principle* – of the outer physical phenomena. They may be regarded, however, both in a physical and a meta-physical aspect.

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" The Four Elements were fully characterized by Plato when he said that they were that ' which *composes* and *decomposes* the *compound bodies*." Fire, Air, Water, Earth were but the visible garb, the symbols of the informing, invisible Souls or Spirits, the Cosmic Gods, to whom worship was offered by the ignorant and simple, but respectful recognition by the wiser." (S.D., vol. I. p. 498. Oe.) (S.D., vol. I. p. 460, Ne.)

" The Elements of Plato and Aristotle were thus the *incorporeal principles* attached to the four great divisions of our Cosmic World." (S.D., vol. I. p. 499. Oe.) (S.D., vol. I. p. 461, Ne.)

These quotations give the metaphysical rather than the physical aspect of the nature of the Elements. The sentence, " *that which composes and decomposes the compound bodies,*" should, however, be specially noted, as giving the idea that an Element is an *active* principle. It is, in fact, physically, an active *force* ; though, as we have already seen in Chapter IV., it must, as such, also be *substance*, a supersensuous state of matter. We might say, for example, that Electricity is an " Element " ; for if the *electronic theory* of matter is correct, it is Electricity which " composes the compound bodies," i.e., the chemical elements. It is, of course, also a familiar physical fact that it is capable of *decomposing* them. Possibly Electricity may stand in the meanwhile as being practically synonymous with the Element *Æther*.

The above definition, however, does not appear at first sight to be quite so applicable to the other four Elements Earth, Water, Air, Fire. But these terms – in their purely physical meaning – stand merely for *states* of matter, where-as the real Elements are not the states, but the *cause* of the states.

Earth, Water, Air are in fact only synonyms for solid, liquid, and gaseous states of physical matter; and while physical science can give no reason why some

matter—the chemical elements and their various combinations—should exist in one state and others in another—attributing this merely to more or less *cohesion*—Occult Science teaches that the cause lies in each case in the action or activity of

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the hidden Elements, according as one or the other predominates.

All the Elements are present in every particle of matter but according as one or the other—Earth, Water, Air—is the most active, so will the substance be a solid, a liquid, or a gas. Fire is a distinct state of matter beyond the gaseous, but not yet recognized as such by modern science ; while beyond Fire we have the fifth Element, Æther.

"Let it be remembered that the Fire, Water, and Air of Occultism, or the 'Elements of Primary Creation' so called, are not the compound elements they are on earth, but the noumenal homogeneous Elements—the Spirits of the former. Then follow the Septenary Groups or Hosts. Placed in parallel lines with the atoms in a diagram, the natures of these Beings would be seen to correspond, in their downward scale of progression, to composite elements in a mathematically identical manner as to analogy. This refers, of course, only to diagrams made by Occultists ; for were the scale of Angelic Beings to be placed in parallel lines with the scale of the chemical atoms of Science—from the hypothetical Helium down to Uranium—they would of course be found to differ. For the latter have, as correspondents on the Astral Plane, only the four lowest orders—the three higher principles in the atom, or rather molecule, or chemical element, being perceptible to the initiated Danga's eye alone. But then, if Chemistry desired to find itself on the right path, it would have to correct its tabular arrangements by that of the Occultists—which it might refuse to do. In Esoteric Philosophy, every physical particle corresponds to and depends on its higher noumenon the Being to whose essence it belongs ; and above, as below, the Spiritual evolves from the Divine, the Psycho-Mental from the Spiritual—tainted from the lower plane by the Astral—the whole animate and (seemingly) inanimate Nature evolving on parallel lines, and drawing its attributes from above as well as below." (S.D., vol. I. p. 239. Oe.) (S.D., vol. I. p. 218, fn. Ne.)

The term Element, as used in Occultism, is still further defined in the following quotation :

" In Occultism the word Element in every case means *Rudiment*. When we say ' Elementary Man,' we mean either the proemial, incipient sketch of man, in its unfinished and undeveloped condition, hence in that form which now lies latent in physical man during his lifetime, and takes shape only occasionally and under conditions ;

or that form which for a time survives the material body, and which is better known as an Elementary. With regard to Element, when the term is used metaphysically it means, in distinction to the moral, the incipient Divine Man ; and in its physical usage, it means inchoate Matter in its first undifferentiated condition, or in the Laya state, the eternal and normal condition of Substance, which differentiates only periodically. During that differentiation, Substance is really in an abnormal state –in other words, it is but a transitory illusion of the senses." {S.D., vol. I. p. 619. Oe.) (S.D., vol. I. p. 567, Ne.)

We must not lose sight of the fact that the seven great Cosmic Elements of the ancient Indian Philosophy, and of Occult Science, are the primeval differentiations or modifications of the One Root Substance, Mulaprakriti ; these differentiations taking place at the dawn or commencement of a great Manvantaric (evolutionary) Period. They are in fact those primal differentiations described in our last chapter as being associated with the seven great Cosmic Beings, or Dhyān Chohans.

" If the student bears in mind that there is but One Universal Element, which is infinite, unborn, and undying, and that all the rest –as in the world of phenomena –are but so many various differentiated aspects and transformations (correlations they are now called) of that One, from macrocosmical down to microcosmical effects, from super-man down to human and sub-human beings, the totality, in short, of objective existence –then the first and chief difficulty will disappear, and Occult Cosmology may be mastered." {S.D., vol. I. p. 104. Oe.) (S.D., vol. I. p. 75, Ne.)

" These seven Elements with their numberless sub-elements, which are far more numerous than those known to Science, are simply *conditional* modifications and aspects of the One and only Element. This latter is not Ether, not even Akasha, but the source of these. The Fifth Element, now quite freely advocated by Science, is not the Ether hypostasised by Sir Isaac Newton although he calls it by that name, having probably associated it in his mind with Æther, the ' Father-Mother ' of antiquity." {S.D., vol. I. p. 40. Oe.) (S.D., vol. I. p. 12-13, Ne.)

" Metaphysically and esoterically, there is but *One Element* in Nature, and at the root of it is the Deity ; and the so-called *seven* Elements, of which *five* have already manifested and asserted their existence, are the garment, the veil, of that Deity, direct from the essence whereof comes Man, whether considered physically, psychically, mentally, or spiritually. Four Elements only are

generally spoken of in later antiquity, while five only are admitted in philosophy. For the body of Ether is not fully manifested yet, and its noumenon

is still the Omnipotent Father Æther,' the synthesis of the rest." (S.D., vol. I. p. 498. Oe.) (S.D., vol. I. p. 460, Ne)

As the " One Element " is the *germ-plasm* of the Universe, and contains within itself the potentiality of the other seven, so also each of the seven contains within itself the potentiality of further differentiations ; what, in fact, would now be called in physics *the evolution of matter*.

This phrase is no longer strange or heterodox to modern Science, though it was decidedly so at the time *The Secret Doctrine* was written. But the evolution of *physical* matter is only the evolution of matter on one of the seven Cosmic Planes, and that one the lowest or grossest. Therefore the Element out of which our physical matter is evolved is the Element " Earth." All the other Elements are also present and active on this Plane, but they are all characterized or qualified by the predominant Earthy Element.

There is a statement given in the quotation on page 58 to the effect that *four* of the seven Cosmic Elements are " entirely physical," and this may possibly be a little misleading, in view of the fact, which we have already noted, that the four *physical* elements, or states of matter—earth, water, fire, air—are not the cosmic elements, but only the subdivisions of our physical Plane, itself the lowest of the seven great Cosmic Planes.

The explanation of this apparent discrepancy is to be found in the great principle of correspondence and analogy which is the key to all the Occult teachings. " As above, so below." We shall find that in every case where Modern Science is able to generalize, or to group phenomena according to certain general characteristics, we shall have direct confirmation of the operation in Nature of this fundamental principle, long since recognized by, and made the basis of, Occult Science.

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The four *physical* Cosmic Elements are, then, by correspondence and analogy, represented on our lowest or physical Plane by the four *sub-states* of our matter, known as earth, water, fire, and air. Now the next *Cosmic* Plane to the physical—usually termed the *Astral*—is reckoned to be, cosmically, one of a lower *quaternary* of Planes, which lower quaternary, whether we are dealing with Elements, with Planes, with Principles, or merely with sub-states of matter on any one particular Plane—our physical, for example—is always reckoned as *material* as contrasted with the *spiritual* nature of the three higher Planes. The three higher Planes, etc., are symbolized by the triangle, while the four lower are symbolized by the square, or the cross. A full explanation, however, of the relation between the upper triad and the lower quaternary would take us too far out of our way at present, and the reader may be referred to *The Secret Doctrine* itself for this information. (Vide diagram, p. 85. Also diagram, (S.D., vol. I. p. 221, Oe.)(S.D., vol. I. p. 200. Ne.)

The teachings of *The Secret Doctrine* find their confirmation from many various sources ; they do not stand as any new philosophy or discovery ; indeed, the work was principally written to show how and in what way these teachings are contained in various records extending back to the remotest historical times.

There is nothing more characteristic of all these records than the persistent use of the number *seven*. This is clearly pointed out over and over again in the work itself, and it is no part of our present subject-matter to deal with it, though we shall have some physical analogies to point out later on.

With reference, however, to this septenary division, and the fundamental idea of Divine Life and Intelligence behind or within all the processes of Nature, and each Element in particular, students would do well to compare the teachings of *The Secret Doctrine* with those of the great Seer, Jacob Boehme, respecting what he calls the " Seven

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Qualifying or Fountain Spirits." When the terminology has been mastered, the teaching will be found to be practically identical, and wonderfully illuminative.

We have already seen that the whole cycle of a Manifested Universe, the whole period of the great process during which it comes into objective existence, issuing from the latency or subjectivity of Primordial Substance, and ultimately returning thereto, must be divided into two main portions, one of which constitutes the *evolutionary* period, whilst the other is *involutionary* in its nature.

What we commonly know as the evolutionary process is really the first half of the Cycle, that half in which matter (or Substance) "passes" —to use Herbert Spencer's celebrated formula — "from an indefinite, incoherent homogeneity, to a definite, coherent heterogeneity." In using this phrase, however, Herbert Spencer does not appear to have had any conception beyond a mere *atomic* distribution and redistribution.

Modern Science has not yet recognized that this evolutionary process must certainly be followed by one of involution or devolution, during which the process is reversed, and matter (or Substance) will pass from "a definite coherent heterogeneity " to " an indefinite, incoherent homogeneity," i.e., to its original state, " the eternal and normal condition of Substance, which differentiates only periodically."

Modern Science has only just arrived at the disintegration of the chemical atom; and, indeed, has hardly as yet assimilated the idea itself, or recognized all that it involves. Occult Science, on the other hand, has taught this for ages.

We may note here that the " indefinite, incoherent homogeneity" of "Matter," in any possible state, can only be relatively to our present faculties and consciousness.

Whichever way we look at the question, it is obvious that that *Substance* which is capable of giving rise to all

the subsequent forms of matter, not to speak of the further evolution of plant and animal organisms, must contain within itself, *in some form or mode*, the *potentiality* of the great process which arises within its incognizable depths. Even a Materialist must acknowledge some form of structure or motion therein, though by doing so he stultifies his own primary definitions. Behind or within the germ-cell of the Universe there must lie *latent* everything which subsequently becomes specialized in objective form therein, just as inevitably as plant or animal germ-cell evolves into one particular representative of a species, and no other. That *something* which lies within or behind the germ-cell –whether of an atom, a plant, an animal, a man, or a Universe –is, according to the teachings of Occult Science, that *other mode* of the One Absolute Principle which we know and recognize as Life and Consciousness. Matter, in all its forms, is but the objective correlative of this subjective *Reality*. Subject and object exist in fact as object and reflection in a mirror, but the One Reality exists in a mode which is neither of these, and which is, therefore, utterly beyond our reach. The furthest limit of our knowing cannot transcend the duality of subject and object. Nevertheless, we can and may postulate that there is no objective phenomenon without its exact subjective equivalent, and no subjective action without its equivalent objective phenomenon. This, indeed, is the meeting-ground and vanishing-point of Materialism and Idealism. It is here that the two extremes meet, which they can never do so long as either one of these two factors is regarded as an independent reality.

"The essential power of all cosmic and terrestrial Elements to generate within themselves a regular and harmonious series of results, a concatenation of causes and effects, is an irrefutable proof that they are either animated by an *Intelligence*, *ab extra* or *ab intra*, or conceal such within or behind the 'manifested veil.' Occultism does not deny the certainty of the mechanical origin of the Universe ; it only claims the absolute necessity of

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mechanicians of some sort behind or within those elements— dogma with us." (S.D., vol. I. p. 650. Oe.) (S.D., vol. I. p. 594, Ne) "The Worlds, to the profane, are built up of the known Elements. To the conception of an Arhat, these Elements are themselves, collectively, a Divine Life; distributively, on the plane of manifestations, the numberless and countless crores of Lives." {S.D., vol. I. p. 269. Oe.) (S.D., vol. I. p. 249, Ne)

" It is through and from the radiations of the seven Bodies of the seven Orders of Dhyanis that the seven Discrete Qualities (Elements), whose Motion and harmonious Union produce the manifested Universe of Matter, are born." (S.D.), vol. I. p. 280. Oe.) (S.D., vol. I. p. 259, Ne.)

The fundamental principle which needs to be clearly understood by the student

is that of the One Root Substance periodically differentiating, or assuming a " definite coherent heterogeneity," this " definite coherent heterogeneity " being, in fact, what we commonly know as the phenomenal or manifested Universe.

This phenomenal Universe runs its appointed course, during which Substance undergoes certain definite cyclic changes—as certainly predestined or preordained as are the definite changes which go on in the germ-cell or ovum of any individual plant or animal —and finally returns, after incalculable ages, to its original or "normal" condition. This cyclic principle of evolution and involution will be the same whether we do or do not adopt the septenary division or classification of *The Secret Doctrine*.

We might liken the process to that of crystallization from a clear solution. Imagine a glass vessel full of a clear solution of some salt. To all appearance it is a simple liquid, continuous and homogeneous. It represents our Primordial Substance. It is simple and homogeneous only in appearance, relatively, that is to say, to a certain order of perception or consciousness. If, now, the necessary impulse is given, the necessary conditions of temperature, etc., we may cause the salt to crystallize out or within the liquid, forming thereby a " definite coherent heterogeneity," an objective manifestation, where formerly all appeared to be homogeneous.

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If we further imagine the crystals to be redissolved, so that only the clear solution remains, we have the analogy of the reverse or involutory process. We have now further to conceive that when our Primordial Substance begins this process of differentiation or crystallization —under the impulse of the creative thought of the Logos —the first result will be the formation of the seven great Cosmic Elements or Protyles, each of which is the Root Substance, the ultimate atomic form of the " Matter " of one of the seven great Cosmic Planes.

" In its turn, this Triple Unit (Chaos-Theos-Cosmos) is the producer of the Four Primary Elements, which are known in our visible terrestrial Nature as the seven (so far five) Elements, each divisible into forty-nine —seven times seven — sub-elements, with about seventy of which Chemistry is acquainted. Every Cosmical Element, such as Fire, Air, Water, Earth, partaking of the qualities and defects of its Primaries, is in its nature Good and Evil, Force or Spirit, and Matter, etc. ; and each, therefore, is at one and the same time Life and Death, Health and Disease, Action and Reaction. They are ever forming Matter, under the never-ceasing impulse of the One Element, the Incognizable, represented in the world of phenomena by Æther. They are ' the immortal Gods who give birth and life to all.' " {S.D., vol. I. p. 371. Oe.) (S.D., vol. I. p. 347,Ne.)

"According to esoteric teaching there are seven Primary and seven Secondary ' Creations ' : the former being the Forces *self-evolving* from the one *causeless* Force ; the latter showing the manifested Universe emanating from the already

differentiated *divine* Elements." (S.D., vol. I. p. 481. Oe.) (S.D., vol. I. p. 446, Ne.)

We have already indicated that the various sub-states of matter on our physical Plane, which we know by the names of Earth, Water, Air, Fire, and Ether, are not the real or Cosmic Elements of the Ancients or of Occult Science, but are the corresponding states of matter differentiated out of the Protyle of this particular Plane. Occult investigation would disclose similar correspondences in the "matter" of every Plane, though each Plane would naturally give its own distinctive character to each of its subdivisions. All our physical elements are in fact *Earthy*, as being the

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lowest Plane of the Cosmic Seven. On the next or "Astral Plane all the subdivisions would be characterised as *Watery* (cosmically). Although there is a direct correspondence and connection between the various sub-states of the different Planes one with another, it is impossible by any mere physical investigation to tell what is the actual state of "matter" belonging to the sub-states of any of the Planes higher than the physical. This can only be investigated by Occult means, and, even when known, would appear to be hardly translatable into the terms of our physical knowledge of Matter; an example of which, indeed, we have in the difficulty which physicists themselves find in expressing the nature of Ether in any physical terms.

The teachings of the ancient Philosophers and Initiates, and of Occult Science in general, can in fact only be understood and justified when it is clearly realized that the moment we begin to endeavour to express the deeper Realities of the Universe — those Realities which lie *within* the Substance out of which this visible garment of the Soul is woven — in terms of our physical Plane, our language must necessarily be merely symbolical. We can only faintly adumbrate the deeper Reality by its reflection or correspondence on this lower or gross Plane of Matter.

And so we find the Initiates in all ages using the physical terms, in order to convey, to those who were capable of a deeper understanding, some of the higher or deeper truths of Man's nature, and his relation to the Cosmos; and in the "Elements" of the Ancients we may find much on these lines which is hidden from those who take them to be nothing more than our physical earth, water, or air.

"Hitherto, Alchemy alone, within the historical period, and in the so-called civilized countries, has succeeded in obtaining a real element, or a particle of homogeneous Matter, the *Mysterium Magnum* of Paracelsus." (S.D., vol. I. p. 638.) (S.D., vol. I. p. 584, Ne.)

It will be seen that the order in which the Elements are given – Earth, Water, Air, Fire, Æther – conveys to our mind broadly the idea of varying degrees of subtleness, or density, in a regular progression. As we rise from one Plane to another towards the original Primordial Substance or the One Element, " Matter " becomes more and more subtle or refined, more and more plastic and mobile. We must note carefully, however, that our physical idea of *density* is here altogether misleading.

Bear in mind that all forms of " matter," on whatsoever Plane, *are* Primordial Substance. They are never anything else, *qua* Substance. But Primordial Substance cannot be denzified in the sense that there is more of it in one portion of *space* than in another. Our primary concept of Primordial Substance forbids of such a notion. Primordial Substance is absolutely Space-filling, and must ever remain so. Our conception of phenomena, however, as various modes of Force or Motion in and of this Space-filling Substance, affords us a ready explanation of the familiar fact of density on a physical basis. For if our atom of " matter " consists of an aggregation of whirls or vortex-rings, then we can easily see how a number of these can exist in greater or less proximity, thereby constituting what we commonly call density ; which is, therefore, a fact as regards " matter," but an illusion as regards Substance.

It is necessary to bear in mind continually that all our familiar "facts" are merely terms of *relativity*. Every statement of *how* or *why* must necessarily be made within certain limitations. The limitations should be recognized and understood. The failure to do so leads to dogmatic forms of obscurantism, such as that commonly known as Materialism.

Our common idea of density, then, cannot be applied to the great Cosmic Elements. The idea which we must endeavour to grasp is rather that of increased complexity, involution or limitation of *motion*, as we descend from a

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higher Plane to a lower, with a corresponding liberation, freedom, or universality of motion as we get nearer and nearer to the ultimate Plane of Primordial Substance itself.

Strictly speaking, we cannot conceive that there is more Motion in any one part of Space than in another, any more than we can conceive of there being more Substance. The reason for this is that, in our last analysis, all forms of motion must resolve themselves into Absolute Motion, indistinguishable from the Absoluteness of the One Substance itself.

Practically unthinkable as is the idea of *absolute* Motion, however, we are not without certain physical analogies which help us to understand the immensely increased activity of the higher Planes. The Ether transmits the vibrations of Light with the enormous velocity of 185,000 miles per second, and the vibrations themselves are counted by the million million per second. The great puzzle or paradox for Science is the enormous density of the Ether which must be

conceded in order to explain physically this enormous velocity. According to all our physical conceptions of density, the Ether is incomparably denser than the densest substance we know of. In a recent book on *The Ether of Space*, by Sir Oliver Lodge, the density of the Ether is estimated to be something comparable to 10^{12} C.G.S. units ; that is to say, a million million grammes per cubic centimetre, or something like fifty thousand million times that of Platinum. Yet to our physical faculties and consciousness this "dense" substance is utterly invisible, impalpable, and imponderable ; we move freely through it, as if it had no existence whatever.

By another method of calculation, and other data namely, the momentum of an impinging light-wave, or, as it is sometimes called, the pressure of light—Sir J. J. Thompson, in his recent presidential address to the British Association (1909), showed that the density of the

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Ether might be of the order 5×10^{10} , or about " two thousand million times that of lead."

This enormous density, which has only recently come to be recognized, is referred to in *Five Years of Theosophy*, p. 247, 1885 ed., as follows :—

" When demonstrated, the four-dimensional conception of space may lead to the invention of new instruments to explore the extremely dense matter that surrounds us as a ball of pitch might surround, say, a fly, but which, in our extreme ignorance of all its properties save those we find it exercising on our Earth, we call the *clear*, the *serene*, and the *transparent* atmosphere. This is no psychology, but simply occult physics, which can never confound ' substance ' with 'centres of Force,' to use the terminology of a Western science which is ignorant of Maya."

The real fact is, as stated in this quotation, that we are ignorant of, because insensible to, any properties of the Ether save those which manifest in or through physical matter ; those properties, in fact, which are physical matter.

We have already noted that, qua Substance, neither physical matter, nor Ether, nor the " matter " of any other Plane can be more or less dense than Primordial Substance itself, simply because the latter is postulated as absolutely space-filling, homogeneous, incompressible, and inextensible—in fact, the modern scientific definition of the Ether.

But since *density* is quantity of matter, or *mass per unit volume*, or per unit space ; and since even the densest physical matter is to the Ether only like an exceedingly porous sponge, or the filmiest mist of atoms or corpuscles, with enormous spaces between—that is to say, that in a given space the differentiated portion of the Ether which we know as " matter " is only a mere fractional part of the whole contents ; and since in estimating the density of this matter we are

estimating merely its *aggregate* : it follows naturally that this aggregate is exceedingly small in comparison with the absolutely space-filling substance of which it is a part.

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In his recent address to the British Association Sir J. J. Thompson says :

"In all probability, matter is composed mainly of holes. We may, in fact, regard matter as possessing a bird-cage kind of structure, in which the volume of the Ether displaced by the wires when the structure is moved is infinitesimal in comparison with the volume enclosed by them."

What we ought really to do is not to take physical matter as our standard and then say that the Ether is so many million times denser, but reverse the conception, and speak of matter as so many million times rarer than the Ether. Possibly it may not be long before some scientific standard of etheric density may be found which will enable this to be done.

Meanwhile, the fact that it is only *Consciousness* which appreciates these differences is a very suggestive one. Matter on all Planes has the same absolute density – an old Occult teaching, but one now confirmed by the modern concept of the space-filling Ether, with "matter" only a differentiated form of motion therein. But out of this uniformly dense Substance, Consciousness makes for itself such a distinction, or such limitations, that part may seem real and part unreal, part is visible and part invisible, part palpable and part impalpable, while, metaphysically, the whole is *Maya*.

Even more important, however, than the density of the Ether is its intrinsic *energy*, for this involves the idea of *motion* which we are now considering.

Radium has shown us the enormous amount of intrinsic energy contained in the atom and corpuscle ; but since these are only a fractional part of the Ether itself, the amount of intrinsic energy in the latter in a given space must be just as enormous in comparison as is its density.

The intrinsic energy of the Ether is estimated by Sir Oliver Lodge to be of the order 10^{20} C.G.S. units per cubic

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millimetre ; or otherwise, the amount of energy in every cubic millimetre of space is " expressible as equal to the energy of a million horse-power station working continuously for forty million years." ¹

Now this involves an almost inconceivable amount of intrinsic *motion* of some kind or other, in almost equally inconceivably small centres – " centres of force " – in the Ether. The only physical way, in fact, in which the density and elasticity of the Ether can at present be conceived of appears to be that which regards it as an excessively fine-grained structure of minute vortices, giving to it a gyroscopic stability and elasticity.

This view may serve very well for the present ; and we need only point out here how it helps to illustrate the Occult view that the ultimate motion of Primordial Substance itself must be absolute *motion*, quite unrealizable, however, physically.

In the work by Sir Oliver Lodge to which we have just referred, he himself asks the question :

“ Why assume any finite density for the ether at all ? Why not assume that, as it is infinitely continuous, so it is infinitely dense – whatever that may mean – and that all its properties are infinite?” (p. 92).

The answer to this question, as he himself gives it, is a very simple but a very suggestive one. It is that – “ This might be possible were it not for the velocity of light. By transmitting waves at a finite and measurable speed the ether has given itself away, and has let in possibilities of calculation and numerical statement. Its properties are thereby exhibited as essentially finite – however infinite the whole extent of it may turn out to be” (p. 92).

In the first of these quotations the term “ infinitely continuous ” appears to be used as synonymous with absolutely space-filling – which is not quite the same as the “infinite.....

¹ The Ether of Space, p. 95.

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extent ” of the second quotation. *Extent* should be rather *content*. But in any case it seems rather illogical to “ assume ” that it is “ infinitely continuous, and then go on to prove that its properties are “essentially finite”; for these properties are only those of one particular phenomenon as manifested to our limited physical senses. Infinite extension would, however, to the Occultist, convey the idea of extension in an inner direction as well as an outer; an infinity of space *within* of the same order as that which we view *without*. This concept has hardly as yet entered into physical science, though it is beginning to be understood in the new view of the constitution of matter which the discovery of the corpuscle or electron has opened out.

“As already remarked, no Eastern Initiate would speak of spheres 'above us, between the earth and the airs,' even the highest, as there is no such division or measurement in Occult speech, no above as no *below*, but an eternal *within*, *within two other within*s, or the planes of subjectivity merging gradually into that of terrestrial objectivity – this being for man the last one, his own plane.” (S.D., vol. I. p. 734. Oe.) (S.D., vol. I. p. 671, Ne.)

Occult Science, therefore, would say, with regard to the infinity of the Ether,

that the very fact that it has " given itself away," and that " its properties are thereby exhibited as essentially finite," shows that it is not infinite in the sense of being absolutely space-filling—the innermost of the innermost, or Primordial Substance itself.

The very facts which modern Science educes to prove the existence and properties of the Ether are those which Occult Science would also educe to prove that there are other Planes of Substance beyond it—beyond in the sense of *within*, and again *within*, just as the Ether is *within* physical matter.

And when we get back to those interior Planes—what shall we say of *Motion*? If the intrinsic motion of the Ether of Science is so inconceivably greater or more

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universal (nearer to the " infinite ") than anything which we know as motion of physical Plane matter, how much more " infinite " will be the intrinsic motion of the Plane immediately beyond the Ether, and then again of the Plane beyond that? If the gross physical ether can transmit vibrations at the enormous velocity of 185,000 miles per second, at what velocity will Manasic Substance transmit them?—this velocity possibly being " telepathic," or taking place in the medium by which thought is primarily transmitted from one mind to another.

Now although no number of multiplications can make up *infinity*, yet we are obliged to regard infinity or absoluteness as the end term. The motion of Primordial Substance must be Absolute Motion; and any " vibration," any " motion " of that substance, is instantly present everywhere; no time is occupied in transmission.

Add to this concept that no single disturbance, motion, or vibration of physical matter—or of the " matter " of any other Plane—can take place without reaching and affecting all the other Planes, right back to Primordial Substance itself—since matter is Primordial Substance—and we see that no single action can take place "down here," or in the substance of any other Plane, but it is *instantaneously present* at the " other end " of the Universe.

It is only " down here " that the properties of Primordial Substance are " exhibited as essentially finite."

The idea of absolute perpetual *Motion*—sometimes called the *Great Breath*—is, therefore, one which is indissolubly associated in Occult Science with the idea of Primordial Substance as involving the notion of " energy." Its modern physical equivalent is, of course, what is known as the doctrine of the Conservation of Energy—one of the great " discoveries " of the nineteenth century.

" The ' Breath ' of the One Existence is only used in application to the spiritual aspect of cosmogony by Archaic Esotericism in the other cases it is replaced by its equivalent on the material

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plane—motion. The One Eternal Element, or element containing Vehicle, is

Space, dimensionless in every sense ; coexistent with which are Endless Duration, Primordial (hence Indestructible) Matter, and Motion—Absolute 'Perpetual Motion,' which is the ' Breath ' of the One Element. This Breath, as seen, can never cease, not even during the Pralayaic Eternities." (S.D., vol. I. p. 85. Oe.) (S.D., vol. I. p. 55, Ne.)

"Eternal Matter relapses periodically into its primary undifferentiated state. The most attenuated gases can give no idea of its nature to the modern physicist. Centres of Forces at first, the invisible Sparks, or primordial Atoms, differentiate into Molecules, and become Suns – passing gradually into objectivity – gaseous, radiant, cosmic, the one ' Whirlwind ' (or Motion) finally giving the impulse to the form, and the initial motion, regulated and sustained by the never-resting ' Breaths ' – the Dhyana Chohans." (S.D., vol. I. p. 129. Oe.) (S.D., vol. I. p. 103, Ne.)

Considered as modifications of the great " Breath," or ceaseless Motion of the One Root Principle, the great Cosmic Elements are sometimes referred to as *Tattvas*.

"Whether *Tattvas* mean, as Occultism teaches, 'forces of Nature' or, as the learned Rama Prasad explains, ' the substance out of which the universe is formed ' and ' the power by which it is sustained,' it is all one ; they are *Forces Purusha*, and *Matter, Prakriti*. And if the *forms*, or rather planes, of the latter are seven, then its forces must be seven also. In other words, the degrees of the solidity of matter and the degrees of the power that ensouls it must go hand in hand.

" The Universe is made out of the *Tattva*, it is sustained by the *Tattva*, and it disappears into the *Tattva*,' says Shiva, as quoted from the *Shivdgama* in *Nature's Finer Forces*. This settles the question : if *Prakriti* is *septenary*, then the *Tattvas* must be seven, for, as said, they are both Substance and Force, or atomic Matter and the Spirit that ensouls it." (S.D., vol. iii. p. 491.)

There is a reference in the above to the fact that in the Hindu System – which has been ably set forth in a work entitled *Natures Finer Forces*, by Rama Prasad, M.A. only five *Tattvas* are enumerated. The reason for this is the same as that which we have already given in the enumeration of the Elements.

The paragraph, however, serves well to show how closely

" Matter " and " Force " are identified in the Occult teachings and whatever terminology may be used, this will be found to be the key to the correspondences which obtain in all Nature, and in the " Principles " and consciousness of Man himself.

CHAPTER VII THE EVOLUTION OF HUMANITY AND THE EVOLUTION OF THE ELEMENTS

We have already seen that in the conceptions of Occult Science it is fundamentally impossible to separate the great evolutionary process of Cosmic Manifestation from the inherent informing Life and Consciousness, represented in the first instance by the Logos, and in subsequent stages by various Hierarchies of Divine Intelligences or Dhyān Chohans.

Any final definition of *Matter* which we can possibly give must necessarily bear some relation to Consciousness, for it is only by or through Consciousness that Matter can be known at all. Matter, then, in its final definition is simply that which is *objective* to Consciousness on any possible Plane of perception or manifestation; in other words, the coming into existence of the Manifested Universe is a transcendental process whereby that which exists eternally in the One becomes apparently separated into the duality of Subject and Object.

By the great fundamental principle of Occult Science, that of correspondence and analogy, this process which takes place "above" also takes place "below." That which applies to Life and Consciousness as a whole, or in its Cosmic aspect, applies also to its individual manifestations.

For the Occultist, therefore, the evolution of every objective or material phenomenon – from an atom to a

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man, from a man to a Globe, from a Globe to a Solar System, from a Solar System to a Universe – is the equivalent or correlative of a corresponding evolution in some definite unit of Life and Consciousness. There is in fact such a complete parallelism between the two, that if we could see the *whole* process, in the inner as well as in the outer, it would be all one whether we said with the Materialist that without Matter there could be no Consciousness, or with the Idealist that without Consciousness there could be no Matter.

In accordance, then, with this fundamental principle, *The Secret Doctrine* teaches that the evolution of this present Globe of ours, and the evolution of Humanity, not merely in its physical nature, but also in its inner spiritual, mental, and psychic nature, takes place *pari passu* with the physical evolution of the matter with which we are familiar.

We may look at the question now, however, from the lower or physical standpoint, and speak of Humanity as adapting itself to the changes in the Elements or states of matter, rather than *vice versa*; though we shall not thereby fall into any such grossly material idea as the "origin of species" through "natural selection" or "survival of the fittest."

" As stated in vol. I., the Humanities developed coordinately and on parallel lines with the four Elements, every new Race being physiologically adapted to meet the additional Element. Our Fifth Race is rapidly approaching the Fifth Element—call it interstellar ether if you will — which has more to do, however, with psychology than with physics." ¹ (S.D., vol. II. p. 143. Oe.) (S.D., vol. II. p. 135, Ne.)

The allusion here to the Fifth Race will be well understood by students of The Secret Doctrine, but we may perhaps explain briefly that the evolution of our Globe and of Humanity takes place, according to the Occult

¹ It is perhaps worth noting, in this connection, that we find Sir Oliver Lodge, in *The Ether of Space* (p. 114) saying : " If anyone thinks that the ether, with all its massiveness and energy, has probably no psychical significance, I find myself unable to agree with him."

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Teachings, in certain definite Cycles, of which there are seven major ones called *Rounds*, and seven subordinate ones in each Round, which are called *Races*.

Our present position is said to be that the Earth is now in its Fourth Round, while our present Humanity is in the Fifth Race of that Round. (See S.D., vol. I. p. 182 et seq. Oe.) (S.D., vol. I. p. 159, Ne.)

There is a correspondence, *mutatis mutandis*, in the relation of Humanity to the Elements, between the *Rounds* and the *Races* : between the fifth Round and the fifth Race, for example ; but in the first place, as regards Rounds, we may note that each one of these will be concerned in the definite activity of one of the great Cosmic Elements, and the evolution of *matter* therefrom, coordinately with the evolution of nascent Humanity.

" The general teaching of the Commentary, then, is, that every new Round develops one of the Compound Elements, as now known to Science, which rejects the primitive nomenclature, preferring to subdivide them into constituents. If Nature is the ' Ever Becoming ' on the manifested plane, then these Elements are to be regarded in the same light ; they have to evolve, progress, and increase to the manvantaric end." (S.D., vol. I. p. 271. Oe.) (S.D., vol. I. p. 250, Ne.)

The idea should be carefully noted in this and the following quotations, that the physical matter with which we are acquainted has nothing *whatsoever* in its characteristics which is stable or permanent; it is in a perpetual state of flux and change, not merely in its atomic and molecular forms, but also in absolute consistency or density. This is an idea not merely absolutely opposed to the orthodox science of last century, but one which has not yet been grasped by the most advanced physicist, as it belongs rather to the domain of metaphysics.¹

Modern Science has been forced to give up the great dogma of the nineteenth

century, the indestructibility of the physical atom, and thereby to make one step towards the teachings of Occult Science ; but it has by no means as

¹ See S.D., vol. II. p. 261. Oe. (S.D., vol. II. p. 169, Ne.)

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yet realized this further teaching, that all matter is under-going a gradual change in texture, so to speak. We have no absolute standard of density ; it is all necessarily relative to our present faculties and consciousness. Had we such a standard, however, it might be found that even our present physical atoms, the supposed " foundation stones " of the Universe, are very different in absolute (physical) density from what they were, say, twenty million years ago—small period in the total life of our Globe.

Returning, then, to the connection between the Rounds and the Elements, we find the Secret Doctrine teaching that

" The succession of primary aspects of Nature, with which the succession of Rounds is concerned, has to do, as already indicated, with the development of the Elements—in the Occult sense Fire, Air, Water, Earth. We are only in the fourth Round, and our catalogue so far stops short. The order in which these Elements are mentioned, in the last sentence but one, is the correct one for Esoteric purposes and in the Secret Teachings. The Earth, such as we know it now, had no existence before the Fourth Round, hundreds of millions of years ago, the commencement of our geological Earth. The Globe, says the Commentary, was *fiery, cool, and radiant, as its ethereal man and animals, during the First Round*—a contradiction or paradox in the opinion of our present Science ; *luminous and more dense and heavy during the Second Round ; watery during the Third*. Thus are the Elements reversed." (S.D., vol. I. p. 272. Oe.) (S.D., vol. I. p. 252, fn. Ne.)

Not merely " matter " —the subsequent evolution from the basic Elements — but these Elements themselves are subject to change and modification with the course of the Rounds.

" In short, none of the so-called Elements were, in the three preceding Rounds, as they are now. For all we know, Fire may have been *pure Akasha*, the First Matter of the ' Magnum Opus ' of the Creators and Builders. . . . Air, simply Nitrogen . . . Water, that primordial fluid which was required, according to Moses, to make a 'Living Soul.'" (S.D., vol. I. p. 273. Oe.) (S.D., vol. I. p. 253, Ne)

" The Elements, whether simple or compound, could not have remained the same since the commencement of the evolution of our Chain. . . . Mineral, vegetable, and human life are always adapting their organisms to the then reigning Elements ; and therefore *those* Elements were then fitted for them, as

they are

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now for the life of present humanity. It will only be in the next, or Fifth, Round that the Fifth Element, Ether—the gross body of Akasha, if it can be called even that—will, by becoming a familiar fact of Nature to all men, as Air is familiar to us now, cease to be, as at present, hypothetical, and an 'agent' for so many things. . . . With the next Element added to our resources in the next Round, Permeability will become so manifest a characteristic of matter that the densest forms of this Round will seem to man's perceptions as obstructive to him as a thick fog, and no more." (S.D., vol. I. p. 277. Oe.) (S.D., vol. I. p. 258, Ne.)

It is perhaps necessary here, once more, to caution the student against forming any idea of the nature of the real Elements of Occult Science from their corresponding physical names. To speak, for example, of the Globe as being at one and the same time "*fiery, cool, and radiant*" will appear from such a point of view to be absolutely contradictory. It is possible, however, that modern Science may yet discover that there are visible glowing bodies in space which are not incandescent vapours; or, indeed, matter in any state known to us physically on this Globe.

"The Second Round brings into manifestation the second Element Air; an Element, the purity of which would ensure continuous life to him who would use it. . . . The Third Round developed the third Principle Water; while the Fourth transformed the gaseous fluids and plastic form of our Globe into the hard, crusted, grossly material sphere we are living on." (S.D., vol. I. p. 280. Oe.) (S.D., vol. I. p. 260, Ne.)

"Of these (the primitive, though compound, seven Elements on our Earth), four Elements are now fully manifested, while the fifth—Ether—is only partially so, as we are hardly in the second half of the Fourth Round, and consequently the fifth Element will manifest fully only in the fifth Round. The Worlds, including our own, as germs, were of course primarily evolved from the One Element." (S.D., vol. I. p. 164. Oe.) (S.D., vol. I. p. 140, Ne.)

The following quotation refers to the difference between our so-called chemical elements and the Elements of the Occultist.

"Surely, then, the elements now known to us—be their number what it may—as they are understood and defined at present, are not, nor can they be, the *primordial* Elements.

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Those were formed from '*the curds of the cold radiant Mother*' and '*the fire-seed of the hot Father*,' who 'are one'; or, to express it in the plainer language of Modern Science, those Elements had their genesis in the depths of the primordial

Fire-mist, the masses of incandescent vapour of the irresolvable nebulae. . . . The elements now known have arrived at their state of permanency in this Fourth Round and Fifth Race. They have a short period of rest before they are propelled once more on their upward spiral evolution, when the ' living fire of Orcus ' will dissociate the most irresolvable, and scatter them again into the primordial One." (S.D., vol. I, p. 593. Oe.) (S.D., vol. I. p. 552, Ne.)

There are several matters in the quotations we have now given which require further elucidation, and first and foremost, perhaps, the order in which the evolution of the Elements is given in their connection with the evolution of Humanity in the successive Rounds.

It will be seen that the series of Elements commences with Fire as that which is manifested or evolved in the first Round. Then follow Air, Water, Earth, in the order here given. Earth being the fourth in the series, and so corresponding to the fourth Round.

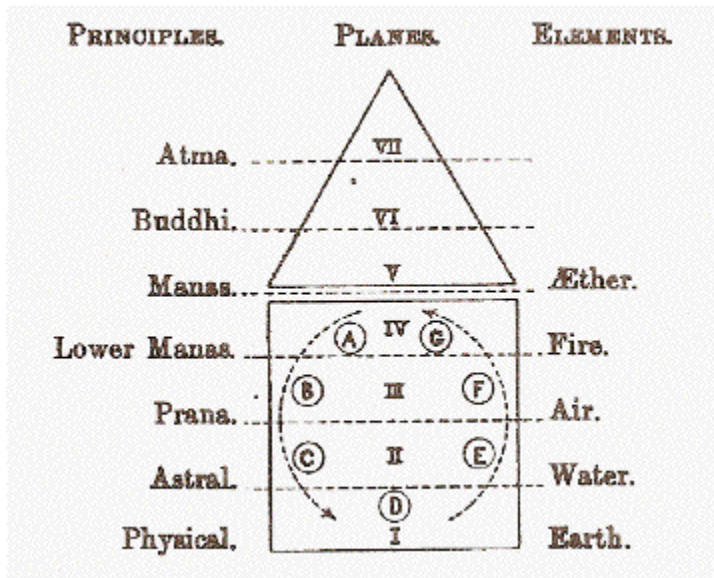
But it is by no means clear at first sight why *Earth*, the grossest and most material Element of all, should characterize the *fourth* Round ; indeed it would appear that it is only made to do so by arbitrarily commencing the series with Fire, whereas, in the order of the seven Elements as given in our last chapter, it would appear that *Fire* is itself the fourth in the descending order.

Further, it is stated that the next Element to manifest in the next or fifth Round will be Ether, whereas we have previously seen that *Æther* (note the spelling, however) comes before Fire in the descending order, and is only the fifth Element if we reckon from below upwards.

The full explanation of this apparent discrepancy is to be found in the fact already briefly referred to on p. 64, that the Cosmic Planes are, for purposes of classification, considered to be divided into two main series or groups, an upper triad of three –symbolized by the triangle –and

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a lower quaternary of four –symbolized by the square. The three upper Planes belong to the spiritual or unmanifested Cosmos, while it is only on the lower four that what we know as manifestation or evolution takes place, and it is only these to which the teaching concerning the Rounds is applicable –they are the four *Material* Planes of the Cosmos ; and, correspondingly, each Plane has its *material*, or lower four subdivisions : namely, on our physical Plane the earth, air, fire, and water, with which we are physically acquainted, whilst Ether is the fifth.



We have referred on page 64 to the explanation given in (vol. I. p. 200, Ne.) of *The Secret Doctrine* as to the various Rounds and Planes, but it will be best here to give a modified drawing of the diagram which will there be found, in order to show the relation of the Elements to the various Planes, and also to the "Principles."

It will be seen by a glance at this diagram that manifestation or evolution, commencing only on the fourth Plane counting downward, is concerned in the first instance with the Element *Fire*; and then, in descending order, with *Air*, *Water*, and *Earth*, respectively. The small circles marked A, B, C, etc., may stand either for Rounds, Globes, or Races,

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but we need not complicate the matter here by any reference to what are known as the "Globes." We shall elucidate these in Chapter IX.

"Even on the highest plane of our universe, the plane of Globe A or G, fire is in one respect only the fourth element." (*Trans. Blav. Lodge*, ii. 24.)

The next fact which we must note is this, that each of the first four Rounds, A, B, C, D, takes us downwards into a more and more material condition or state of Matter, so that in the fourth Round (D) we reach our present material or "Earthy" state. But this is only one half of the whole Cycle, and the second half is a return back again through the same Planes or Elements. The first half is in fact the *evolutionary* period, and the second half the *involutionary* period, which we have already referred to on p. 48. They are indicated on the diagram by the direction of the arrows.

We are now prepared to deal with the statement that the next Element to manifest will be *Ether*. It is not at all clear at first sight how this can be so, but the careful student of *The Secret Doctrine* is well aware that there are apparent

discrepancies in many of the statements made, which, however, vanish on further examination. Many of these apparent discrepancies arise from the fact that there is still very much which cannot be given out fully and plainly, and also that to a large extent it is intended that much would be left to the intuition of the student to interpret in a spiritual and metaphysical manner, otherwise there is great danger that the whole teaching would be hardened and materialized into a rigid system. As we have said before, superphysical things can only be represented to the intellect by their physical correspondences, or by symbolism and analogy ; but great care should be taken that the intuition is left free to work, so that the matter is not hardened into a dogmatic system from which nothing further can be extracted. All these Planes and Rounds, and even the Elements themselves, must be looked upon as

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a kind of support or scaffolding for the building up *within one's self* of the temple of Truth. When that is done the scaffolding is removed.

"Since, however, as before confessed, this work (The S.D.) *withholds far more than it gives out*, the student is invited to use his own intuitions." {S.D., vol. I. p. 299. Oe.) (S.D., vol. I. p. 278, Ne)

Analogy is our certain guide ; but in any particular statement we must be careful to recognize whether we are dealing with Rounds, Races, or Planes ; or whether only with the subdivisions of these.¹ We would take the opportunity here, indeed, of cautioning the reader against any rigid or material view of the classification which *The Secret Doctrine* adopts, and which we are, therefore, using here.

Now and then a hint is thrown out in *The Secret Doctrine* for the intuitional student to work upon. Such a hint is contained in a quotation we have already given on p. 75. "This (the plane of terrestrial objectivity) being for man the last one, his own plane." In other words, for other beings there may be—and Occultism says there is—still " lower " plane ; but the " physical " plane is the plane of man's objective consciousness, whatever state of consciousness that may be.

Our classification, then, is seen to be only a convenient scale or rule with which we may measure or map out a portion of the Universe—that little portion, in fact, which is comprised under the term phenomenal. We may, therefore, consider our classification thus. If we take a circle divided into 360 degrees, we may commence to count these degrees from any point on the circle. If, further, we have a quadrant scale of 90 degrees, it is evident that we may apply this to any part of our circle, and shift it as desired. Our quadrant scale is the scale of planes and sub-planes of our diagram, and it may be placed anywhere in the circle of time—for " time " is a circle or cycle. What determines the position of our scale or

diagram is the consciousness

¹ See S.D., vol. I. pp. 174, 662. Oe. (S.D., vol. I. pp. 175, 536, Ne.)

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of Man, or Humanity; for that consciousness determines the position of the physical Plane as the point from which we commence to count.

Or we may take another analogy. Let us regard our diagram as equivalent to the tonic sol-fa system of musical notation. In this notation the various sounds of the scale have the same *relative* value whatever the key may be; but they have no *absolute* value as definite rates of vibration. We may change the key at pleasure, and then we shift the absolute value of the tonic and of all the other notes, though their relative sound is the same. Such a shifting of the key-note is the shifting of the consciousness of Humanity from Race to Race, and from Round to Round.

" Cycles and epochs depend on consciousness. . . . Cycles are measured by the consciousness of humanity, and not by nature." (S.D., vol. iii. p. 563.)

Now, therefore, with regard to the fifth Element, which is to come into full manifestation only in the next or fifth Round, it must be noted in the first instance that in the quotations given it is spelt Ether, not Æther. We are further put on our guard by the sentence " call it interstellar Ether if you will" In another quotation it is also spoken of as " Ether — the gross body of *Akasha*, if it can be called even that"

Here, then, we see clearly that this Ether is not the fifth *Cosmic* Element, Æther ; as indeed a glance at the diagram will show us plainly that it cannot be, for we cannot jump all at once from the bottom of the cycle to the top ; indeed, if it were the fifth *Cosmic* Element, the *Quintessence* of all the others, we should be jumping out of manifestation altogether.

In the next Round, however. Matter will return to the Astral or " Watery "state, and it is this state which Madame Blavatsky here identifies, *for the sake of analogy only*, with the " interstellar Ether " *if you will*.

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We have seen in Chapter III. that the Ether is identified with the *Astral Light*, and by the Kabalists and other Occultists the Astral Principle is always identified with Water. We see also in the diagram that the Cosmic Element Water corresponds to the Astral Plane.

It should be noted, however, that there must necessarily be a vast difference between the state of " Matter " on this Plane in the next Round, from that which pertained to it in the last or third Round ; for in this last case it is on the downward half of the Cycle of evolution, whereas in the next Round it will be on

the upward arc of the Cycle, and will have added to it all that has resulted from the vast intermediate period. It is difficult, or even impossible, to give any indication or analogy as to what this difference can consist in *physically*, or in any terms of physical Science. We must remember that in Occult Science physical evolution has no meaning apart from the corresponding Life and Consciousness. It is *that* which evolves, and the outward physical states are only the correlatives of the inner changes.

"It is the spiritual evolution of the inner, immortal Man that forms the fundamental tenet of the Occult Sciences." (S.D.,vol. I. p. 695. Oe.) (S.D.,vol. I. p. 634, Ne.)

In the next Round, then, the outward " Matter " must correspond to all the vast experience through which the inner " Monad " has passed ; it is not a mere return in the texture of Matter to the " Watery " state.

This is further borne out by the hint given to us that this evolving fifth Element –or rather the fifth Element with which the evolving Humanity will come into relation– "has more to do with psychology than with physics." It has, indeed, to do with what is commonly referred to as the development of our "astral" faculties. Although the development of these faculties –now as a matter of fact coming largely into evidence, and forming the basis of the new science of Psychical Research– belongs to a certain extent to our present fifth *Race*, yet it is only in the next

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Round that they will attain their full or normal ascendancy. Humanity will, in fact, then be wholly on what is to us now the " Astral Plane." The passage of matter through matter will be one of the most familiar facts of physics, for " *Permeability* will become so manifest a characteristic of matter that the densest forms of this Round will seem to man's perceptions as obstructive to him as a thick fog, and no more."

But we must here note a further distinction which must be made between what is here called *interstellar* Ether, and the Ether of modern science. The fifth Element, or the next in the order of manifestation, if it is to be called " Ether " at all, is this *interstellar* Ether, and not the Ether of modern science, –the Ether, that is to say, which modern science recognizes as concerned in the phenomena of light, heat, electricity, magnetism, and matter, i.e., corpuscles or electrons.

Modern science has only one Ether, Occult Science has several ; and in particular it teaches that the Ether with which we come in contact within the " atmosphere " {aura would perhaps be a better word) of our Earth is not the same as the Ether of Space, the interstellar Ether.

All the Elements, in fact, exist in a different condition within the sphere of each Globe, Planet, or Sun from that which exists in Space ; they are in a continual state of flux and change in consequence of the evolutionary cycles through which the Globes are passing, and these evolutionary cycles are different for each Globe or Planet.

"Neither Water, Air, nor Earth (a synonym for solids generally) existed in their present form (in the beginning), representing the only three states of matter recognized by Science ; for all these, and even Fire, are productions already recombined by the atmospheres of completely formed globes, so that in the first periods of the earth's formation they were something quite *sui generis*. Now that the conditions and laws ruling our Solar System are fully developed, and that the atmosphere of our earth, as of every other globe, has become, so to say, a crucible

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of its own, Occult Science teaches that there is a perpetual exchange taking place, in space, of molecules, or rather atoms, correlating, and thus changing their combining equivalents on every planet." (S.D., vol. I. p. 165. Oe.) (S.D., vol. I. p. 142, Ne.)

"Thus not only the elements of our planet, but even those of all its sisters in the Solar System, differ in their combinations as widely from each other as from the cosmic elements beyond our solar limits. . . . Therefore the elements of our planet cannot be taken as a standard for comparison with the elements in other worlds." {S.D., vol. I. p. 166. Oe.) (S.D., vol. I. p. 142, Ne.)

" Our globe has its own special laboratory on the far-away out-skirts of its atmosphere, crossing which, every Atom and molecule changes, and differentiates from its primordial nature." (S.D., vol. I. p. 638. Oe) (S.D., vol. I. p. 583, Ne.)

The above quotations are suggestive of a great deal which does not appear at first sight, but upon which more light will be thrown in our subsequent chapters.

We may note here the idea, as yet unfamiliar to Modern Science, that our Earth—and, by correspondence, every other Planet—has its own particular sphere of physical activity, extending far beyond the ordinarily assigned limits of our " atmosphere," in which atoms and molecules, if not actually manufactured out of the interstellar Ether, at all events change and differentiate into those forms of matter, or chemical atoms and molecules, with which we are acquainted.

Notwithstanding that the true " Ether " of the fifth *Round*—or of the fifth Humanity—is not the present Ether of Science, we must recognize a correspondential relation between it and the latter. The Ether of Science may be said to be the Ether of the fifth *Race*. The recognition of its all-importance in physical phenomena is the result of the great work of the Science of the

nineteenth century. The recognition of its psychical importance will be the work of the present century. The student should read carefully in this connection the whole of (section xi., vol. I., Oe.) (p. 579, XII. ANCIENT THOUGHT IN MODERN DRESS. NE.) of *The Secret Doctrine*, from which the last quotation is taken.

CHAPTER VIII PHYSICAL PLANE MATTER

We have already referred to the position of the physical Plane as a whole in the great Cosmic Order. It is —for Man— that of the grossest or " Earth " Element, the Plane of the greatest densification, involution, or limitation of that Motion or " Breath " by which Substance is modified, and becomes phenomenal.

By correspondence and analogy, however, our physical Plane reflects the whole Cosmos, and what Primordial Substance, or the one Element, is to the whole Cosmos, so is the ultimate form of matter, or Protyle of the physical Plane, to all the rest of that Plane : to those subsequently evolved forms which are the matter of our perceptions, the chemical elements, so called, and other states of matter not as yet reached by scientific investigation.

The Secret Doctrine gives little or no precise information as to the actual constitution of the physical Protyle, or of the various subdivisions of the physical Plane ; nor does it even throw much light upon many practical questions in chemistry and physics which seem to call for immediate solution. Its province appears to have been to deal more with the broad philosophical aspect of the matter, leaving the details to be filled in by later investigators.

To a certain extent an effort has been made to carry this out, and we have at the present time a considerable amount of information which is of enormous interest and impor-

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tance, not merely in view of the more recent discoveries of Science, but also in the wonderful light which they throw upon those teachings of *The Secret Doctrine*, which we have now to a certain extent elucidated. *The Secret Doctrine* was published in 1888, and, as we know, physical Science has since then undergone almost a revolution, owing to the discovery of Radio-activity, Radium, and the Corpuscle or Electron.

Every advance that has been made by orthodox Science, however, has been so much clear confirmation of the teachings of Occult Science, and the position which obtains today for those who have made a study of the latter, as well as having followed the progress of modern research, is one of clear apprehension of many details which were formerly obscure, and of great additional confirmation of the general principles enunciated in *The Secret Doctrine*.

The same may be said in many other departments of Science with which *The*

Secret Doctrine deals, but at present we are concerned only with physical Science.

In November 1895 Mrs Annie Besant published, in *Lucifer*, an article on "Occult Chemistry," which was prefaced by the following words :

"Of late years there has been much discussion among scientific men as to the genesis of the chemical elements, and as to the existence and constitution of the ether. The apparatus which forms the only instrument of research of the scientists cannot even reach the confines of the ether, and they apparently never dream of the possibility of examining their chemical atom. There is, in regard to both atom and ether, a wealth of speculation, but a poverty of observation – for lack, of course, of any means which would render any observation possible.

" Now man possesses senses, capable of evolution into activity, that are able to observe objects beyond the limits of the sensitiveness of the five senses. These latter organs receive vibrations from the physical world, but their capacity of reception is comparatively narrow, and vast numbers of vibrations, still physical in their character, leave them entirely unaffected. The keener and more delicate senses of the astral body are latent for the most part in men of our race, and are therefore not available

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for general use. Yet they afford instruments for observation on the higher levels of the physical plane, and bring under direct ken objects which, from their minuteness or subtlety, escape ordinary vision. It seems worth while to lay before the public a few observations made through these senses, partly because it is possible that they may suggest hypotheses useful as elucidating some scientific problems, and partly because science is advancing rapidly, and will ere long be investigating some of these matters for itself, and it will then perhaps be well for the Theosophical Society if the first statement of facts that will then be accepted should have come from members of its body."

The details given in this chapter, and the diagram which accompanies it, are now taken, by kind permission, from the article just referred to ; and the attention of the reader is also called to a further series of articles which appeared in *The Theosophist* (Jan. 1908 and following months), in which the subject is entered into in much greater detail, and with a wealth of illustrations.¹

We may call attention to the foreshadowing of the discovery of the disintegration of the chemical atom, and of the existence of the electron, in the paragraph which we have quoted above. The details hereafter given, however, must be accepted with all due reserve. They require a considerable amount of confirmation and further elucidation as to particulars : though doubtless right in the main.

First, then, as regards the Protyle, or ultimate form of matter of the physical Plane – the Primordial Substance of the physical Plane only – this is found to be atomic in its nature ; as indeed we should naturally conclude, since it must be formed by a further differentiation or limitation of *motion* in the substance of the

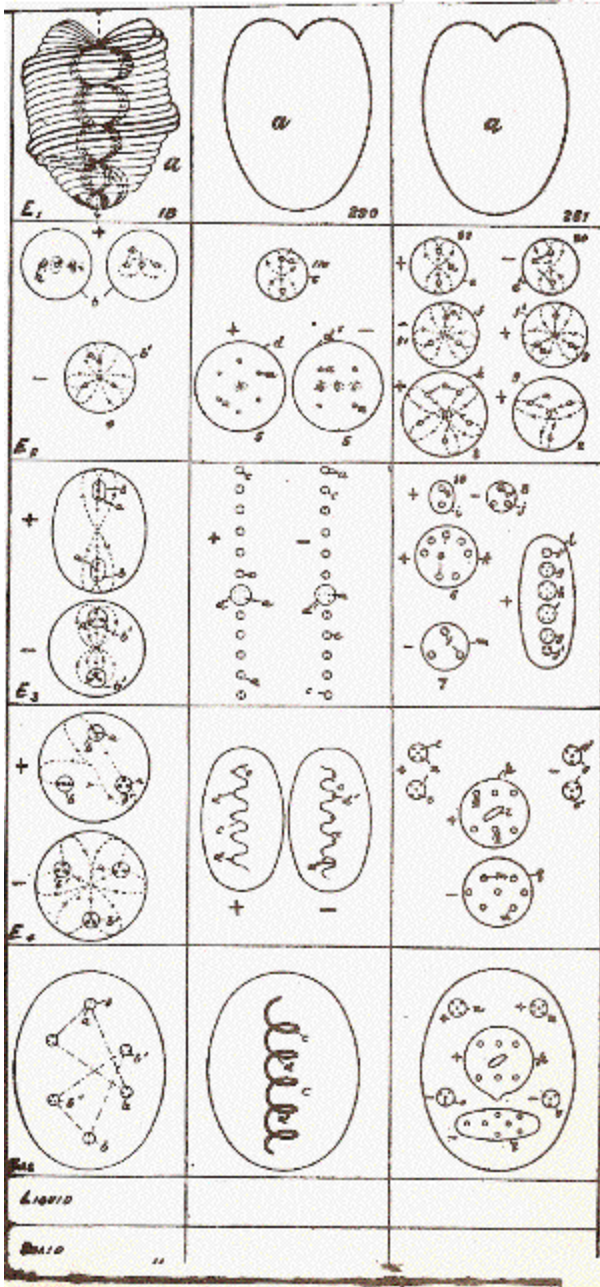
next higher Plane. The formation of the *matter* of any " lower " Plane is, in fact, always a limitation or *involution* of the free motion of the Plane immediately above it.

This is strictly in accordance with the findings of modern Science, which teaches that the corpuscle or electron is a

¹ Since published in book form under the title of Occult Chemistry, T.P.S., 161 New Bond St., London, W.

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form of motion of etheric substance, which becomes further involved within the limits of the physical atom. The free motions of the physical or chemical atoms are further limited or involved when these combine to form compound molecules. We may now refer to our diagram, where a sketch of the ultimate physical Plane atom – the atom of the " Protyle " of our physical matter – is given in the top left hand corner, and marked E₁.



Only a general account of this atom can be given here the student must be referred for a full description to the articles already mentioned.

This ultimate atom consists of a whorl or vortex of *astral* matter, the matter or substance of the Plane next above the physical. It has a definite structure, consisting of a number of spirals, which are further made up of spirillae – not shown in the diagram. The whole atom is in exceedingly rapid motion, like a top, caused by the vortical motion of the spirals. This motion of each spiral passes round and round the outside of the atom, and then, passing in at the top, it forms an internal vortex, finally issuing at the bottom, to pass once more round the outside. Each spiral therefore forms, as it were, a continuous ring or tube of force,

which has probably an analogy, though not an exact correspondence, to the well-known Faraday tubes of magnetic induction.

We find, indeed. Professor Sir J. J. Thompson, in his *Electricity and Matter*, speaking definitely of " the Faraday tubes stretching across the atom between the positively and negatively electrified constituents."

Each spiral has its own particular colour, which is continually flashing out in response to vibrations received from other atoms, or from a higher Plane. The whole object is described as being of very great beauty, and as moving with almost inconceivable rapidity. This latter is, of course, the well-known characteristic of what

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Science at present calls the Ether, whose vibrations are counted by the million million, as against the few hundreds or thousands of the grosser physical matter.

Besides the spinning motion of the atom as a whole, it is described as having two other characteristic motions. The axis describes a small circle, just as a spinning top does when it is beginning to slow down. This motion is what is generally known as that of *precession*, and has its astronomical correspondence in the precession of the equinoxes.

In addition to these two motions, the atom has also a regular pulsatory motion, a contraction and expansion, like the pulsation of the heart.

Referring again to our diagram, the first vertical column represents the formation of an atom of hydrogen gas by a process of gradual aggregation of these ultimate atoms into more and more complex bodies. Reckoning the ultimate atom itself as one stage, we have five stages before the gaseous stage of matter is reached ; the two remaining stages, those of liquids and solids, making seven sub-stages in all.

The first four, that is to say the four higher stages, have been called by Mrs Besant, Ether No. 1, No. 2, No. 3, and No. 4 respectively, in descending order.

It is very possible that this classification may have to be modified later on, as more comes to be known, both from the Occult side, and also from purely physical science ; but in the meantime we think that these four higher states of physical matter may be regarded as *physical* ether, as distinguished from *interstellar* ether—a distinction which we have already made. On page (574 of vol. I. Oe.) (525, Ne.) of *The Secret Doctrine* we are definitely told that we must distinguish " *ponderable* matter " i.e., solids, liquids, and gases —" from that Ether which is matter still, though a sub-stratum." We may probably regard these higher atoms as those already spoken of as becoming modified by their entrance into the " atmosphere " of our Globe ; or possibly they are the atoms which are manufactured in the

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" special laboratory on the far away outskirts of our atmosphere." Remembering that " Occult Science has several ethers " all of which are differentiations of

Æther—and that the "lowest ether" is our physical or "Prakritic" Plane, we shall find it most conducive to clearness of exposition to regard all the atomic sub-planes, as given in our diagram, as constituting the differentiations of our *physical*, or *fifth Race* Ether; the Ether, namely, on the structure of which modern Science is now speculating.

There is a general tendency in these speculations to regard the ether as having a fine-grained vortical structure, giving to it a gyrostatic rigidity and elasticity. We can readily see that in our ultimate atom E_1 we have something which looks exceedingly like this very thing; though it is difficult to say at the present time to what extent this will harmonize with modern physical theories, or in what way the phenomenon of light transmission is dependent upon the atom E_1 .

It is an interesting question also as to which of these sub-atoms we may regard as being the actual corpuscle or electron recently discovered by science in the phenomena of radium and of radio-activity in general. This question cannot, however, be answered definitely at the present time from the information at hand, more particularly so as scientists have not yet decided how many corpuscles are contained in any particular chemical atom.

The original estimate for the atom of hydrogen was from 800 to 1000: since it was discovered that the *mass* of the corpuscle was about 1/800th hydrogen atom itself. Later investigations, however, have placed the number as low as that of the atomic weight of the element, i.e., as low as 1 for hydrogen. We do not think, however, that further knowledge will confirm this extremely low estimate. On the other hand, Mrs Besant is very definite as to the number of ultimate atoms or corpuscles in an

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atom of hydrogen. These are stated to be 18; and the number of ultimate atoms which have been counted in other chemical elements corresponds very closely to the accepted atomic weight multiplied by this number. In other words, if the number of observed atoms is divided by 18 we shall have the relative atomic weight of the particular element, in terms of the weight of the hydrogen atoms.

For example, the number of observed atoms or corpuscles in the chemical atom of oxygen is given as 290, and 290 divided by 18 gives 16.11 as the atomic weight of the element. The number of ultimate atoms observed in a chemical atom of nitrogen is found to be 261, and this divided by 18 gives 14.5 as the atomic weight. The present official atomic weight of oxygen is taken to be 15.879, and of nitrogen 14.01.

Nothing herein stated should be accepted in any rigid or final manner, but the great law of correspondence and analogy should be kept in view all along. If this is done, our diagram will be found to be of the greatest service, for it gives us the general idea or principle which must obtain all through the Planes, in the descent or evolution of Matter from the highest Cosmic Plane to the lowest, as well as in the subdivisions of each separate Plane. Thus the various subdivisions E_1 , E_2 , etc.,

might correspond to Cosmic Planes as well as to subdivisions of the lowest or physical Plane. We have given this diagram and explanation here, indeed, principally because it helps us to understand these broad principles of correspondence and analogy, as well as many matters which are only briefly hinted at in *The Secret Doctrine* itself.

Taking now the sub-planes in descending order, and following out the evolution of the hydrogen atom, we find on the second sub-plane E_2 that the E_1 atoms aggregate into three groups, each containing three ultimate atoms. Each of these three groups, however, is a different sub-atom, inasmuch as the relative motions of the three component atoms

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is different in each case ; they act and interact with each other in a different manner. This action is partially and very inadequately represented by the dotted lines within the circle of the sub-atom. These lines really indicate a play of force, i.e., an action taking place on or from a higher plane. The outside circle represents merely the boundary-line of the sphere of activity of the internal atoms. These internal atoms occupy a certain space, much larger than themselves, by reason of their motion. There is no real boundary-shell or containing-wall to the atoms or sub-atoms, such as there is in a cell, but the almost inconceivably rapid motion of the contained atoms or corpuscles causes a displacement of the surrounding matter of the plane in which they exist; they simply clear themselves a space in which to move.

Physical science shows us that the corpuscles are moving with a velocity approaching that of light, i.e., 185,000 miles per second, and velocities as high as 120,000 miles per second have actually been measured in the case of some of the corpuscles. Imagine what that means within the minute space of the sub-atom. It is practically absolute motion, i.e., the presence of every particle at every point in the sub-atom at every moment of time. It is in virtue of this motion that the atom behaves as a *solid* substance.

Coming down now from E_2 to E_3 we have further combinations and aggregations of the sub-atoms of the sub- plane E_2 ; and on E_4 these become further involved in more complex combinations, each lower sub-plane consisting of aggregations of the sub-atoms of the plane immediately above it.

At the next remove from E_4 we have the actual physical atom of hydrogen gas, which is now seen to consist of two of the sub-atoms of the plane E_4 immediately above it, but differently arranged as to the constituent sub-atoms b and b_1 . These sub-atoms b and b_1 will be seen to belong really to the sub-plane E_2 , but they also form a combination on

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sub-plane E_3 . Each of these sub-atoms, b and b_1 , has, as before stated, three ultimate atoms E_1 , and it will thus be seen that there are 18 of these ultimate atoms in an atom of hydrogen gas. The other two columns of the diagram,

marked O and N, represent the evolution of an atom of oxygen and an atom of nitrogen respectively ; for full particulars of which we must refer our readers to the articles in question.

We see, then, that the matter of any sub-plane—and, by correspondence and analogy, of any Cosmic Plane—is formed by an involution or limitation of the matter or substance of the plane immediately above it—the free motions of the respective atoms on their own plane becoming confined and limited within the boundaries of the atoms of the lower plane.

What we commonly know, therefore, as the evolution of matter, is in reality the involution of motion or force. It is the making of a definite *thing* by limitation.

The mental picture which this diagram enables us to form of the constitution of chemical atoms and molecules is practically in line with the latest pronouncements of physical science, though it goes very much further.

The principal content of the chemical atom, as at present known to scientists, is the corpuscle or electron, which can hardly be taken to be the ultimate atom E_1 , although there are some things which seem to point to this. For example, whatever may be the chemical element from which the corpuscles are obtained, they always appear to be identical. They are invariably electro-negative, and the charge of electricity associated with each corpuscle is also invariable in fact they behave as definite *atoms* of electricity.

On the other hand, it is stated by Mrs Besant that when a current of electricity is brought to bear upon the ultimate atoms E_1 they become polarized and arrange themselves in definite lines, the current entering in at the heart-shaped depression at the top of the vortex and passing out through

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the bottom to the next atom, where it again enters at the top, and so on.

Now if this is so, then the current of electricity must belong to a higher Plane ; it must at least consist of atoms of astral matter. But the modern concept of a current of electricity is, that it is simply a stream of corpuscles or electrons; and if this is correct, as well as Mrs Besant's statement, then the corpuscle or electron of modern science must be an actual *astral* atom. It will in fact be an atom—i.e., a whorl or vortex—of " interstellar " ether, not of physical ether.

There is, indeed, a semblance of probability in this if the original estimate of physicists that the hydrogen atom contains about 800 corpuscles can be adhered to. Mrs Besant states that the atom E_1 is represented on the astral Plane by 49 atoms ; and since there are 18 E_1 atoms in the chemical atom of hydrogen, $18 \times 49 = 882$ — a strikingly near approximation.

We do not think, however, that this can be sustained, and it would be better for the present to leave it on one side, and deal only with the more obvious analogies between modern physical theories and the Occult teachings now before us. The modern theory as to the nature of a current of electricity will doubtless be modified out of all recognition before many years are past ; for

nowadays " modern " theories become very ancient in quite a short time.

We might point out, however, that the modern theory which considers the electrification of an atom or ion to be due to the presence or absence of a single corpuscle, either in the atom itself, or possibly attached to it as a sort of satellite –negative electrification consisting in one corpuscle in excess, and positive electrification in one corpuscle in defect—cannot find any confirmation considered in the light of the structure of atoms with which we are now dealing. It will readily be seen that this structure is so definite that whatever sub-plane the corpuscle may belong

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to, the withdrawal of a single one would necessitate the break-up of the whole contents of the *gaseous* atom. There is nothing to show that any free sub-plane atoms are attached as satellites to the gaseous atom ; but the whole question of electrification still remains to be elucidated from the Occult point of view.

Whether physical science will ever discover that the corpuscle itself is a highly complex body, or whether it will discover other corpuscles unlike those at present known, remains to be seen ; but Occult Science has no doubt about either fact.

Since we are principally desirous here of making a systematic and clearly understandable exposition of the subject-matter available, and in terms of the diagrams and nomenclature already published, we shall find it necessary in order to do this to assume that the whole of physical plane matter – the plane D in our diagram on p. 85 – is compounded of successive aggregates of a relatively simple ultimate structure, as shown in Mrs Besant's diagram. We shall have to assume further that this ultimate atom E_1 or the *Protyle* of the physical plane – is the physical Ether with which modern Science is now dealing; or, more strictly speaking, it is the first phenomenal form of that Ether, the Ether itself being the " astral matter " of the plane above. We have a warrant for this in the following passage from *Transactions of the Blavatsky Lodge*, (vol. ii. p. 19. Oe.) (p.107, Ne.)

" The ether of which science has a suspicion is the grossest manifestation of Akasas, though on our plane ; for us mortals it is the seventh principle of the astral light, and three degrees higher than ' radiant matter.' "

We may note here, in the first place, that the " radiant matter" referred to is that which had at that time (1889) recently been discovered by Sir Wm. Crooks, and which had also been called by him " fourth state matter," that is to say, a state of matter higher than that in which matter

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is known to us as a gas. This would therefore be the matter of sub-plane E_4 of

Mrs Besant's diagram ; and we readily see from this diagram that what we are now calling the *physical* Ether of modern Science is, as Madame Blavatsky says, "three degrees higher" than this fourth state "radiant" matter, or the matter discovered in high-vacuum tubes under the influence of an electric discharge.

We may note that, according to this, we should have to place the corpuscle or electron also on sub-plane E_4 , although the all-alike character of these minute bodies would seem to be against this, and rather in favour of their being the ultimate atom E_1 . We may remember, however, that this all-alikeness is only a characteristic of their electric value or charge, and the apparent mass deduced therefrom, and might not be inconsistent with a complexity and variety of structure such as is exhibited in the atoms of this sub-plane, though this complexity is unreachable and undiscoverable by modern physical means of research.

It is quite possible, for example, that the sub-atom or corpuscle E_4 of hydrogen marked with the negative sign might have exactly the same electrical value or charge as the sub-atom or corpuscle of oxygen on the same sub-plane, also marked as electro-negative. Mrs Besant, however, gives us no clue as to what constitutes the positive or negative value of these sub-atoms.

We shall, then, consider the ultimate structure of the physical Ether of modern Science to be represented by the ultimate atom or vortex E_1 ; but we shall at the same time have to repudiate the concept of modern Science that this Ether is absolutely space-filling or continuous, or that these ultimate atoms constitute a close-packed granular structure.

We shall have to make a further distinction later on between physical Ether, astral Ether, and interstellar Ether, but we must note here the phrase " seventh principle of the

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astral light " which Madame Blavatsky uses in the above quotation. The question here is, whether the *seventh* is used for the highest or for the lowest subdivision of a Plane. If it is used for the highest subdivision—as we have just taken it—then our physical Plane *is* the astral light. If it is used for the lowest subdivision, then it might still harmonize with the rest of the teaching, as being the lowest of the astral Plane, or the Plane immediately above the physical, for it is out of this " matter " that the ultimate atom E_1 of our Plane is spun, and thus the Ether would really be the matter of the next Plane, though the first form in which it could be *physically* known would be the atom E_1 .

To settle this question we may give the following quotation from the same *Transactions* (vol. ii. p. 30, Oe.). (p. 124, Ne.)

" Make a distinction between *Æther* and Ether, the former being divine, the latter physical and *infernal*. Ether is the lowest of the septennate division of Akasa-Pradhana, primordial Fire-Substance. *Æther*-Akasa is the fifth and sixth principles of the body of Kosmos—thus corresponding to Buddhi-Manas in

Man ; *Ether* is its Kosmic sediment mingling with the highest layer of the Astral light. Beginning with the fifth root-race, it will develop fully only at the beginning of the fifth round."

Here, then, we see clearly that the numeration is from below upwards ; and therefore the " seventh principle of the astral light" of our previous quotation, considered as a subdivision, must be the highest sub-plane of our present physical Plane, and this latter must be the " astral light."

Now there are several hints in *The Secret Doctrine* that this is really the case, although the term " astral " in theosophical literature has become wholly associated with the Plane next above the physical. There is a wider sense, indeed, in which the term may be used for the whole of the *manifested* Universe, namely, for the whole of the four lower Planes. We shall be obliged, however, in view of the conventional use of the term, to continue to apply it only to the particular Plane immediately above the physical.

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We have seen that by correspondence and analogy the substance of any one Plane stands in the relation of Primordial Substance to the matter of the Plane next below it ; but in addition to this it also stands in a *force* relation.

This force relation shows itself in two ways. In the first place the atom itself, E_1 , can only be formed by a definite astral force throwing the matter of the astral Plane into that particular shape. Withdraw that force and the atom immediately vanishes. It is like forming a vortex-ring in still air. When some adequate force is applied capable of throwing the air into vortical motion, then a definite object appears *i.e.*, our vortex-ring—where immediately before all was apparently homogeneous space.

In the second place, this definite object, our atom E_1 , having been thus formed, now becomes a centre or focus, which acts and reacts at every moment with the forces and activities of the astral Plane. It is surrounded and interpenetrated with the *matter* of that Plane, as well as of all the higher Planes ; indeed, we must conceive of it as having a definite shell or aura of matter or substance of all the higher Planes, just in the same way as we ourselves possess such an *aura*, and as every Sun, Planet, or Globe does, as well as every physical thing. It is through this aura that we, and all other things, are in touch with all the Planes of the Universe, from the highest to the lowest ; and so is every atom and molecule, for the Universe is a " seamless garment," woven in one piece from top to bottom.

Although, therefore, we must consider the force which not merely constructs the atom E_1 , but also continually plays through it, as being in the first instance an astral force, a force which—to our perceptions—would well-up from nowhere, or from a " fourth dimension," yet further back it is—as we have already seen in Chapter V.—the activity of the great Cosmic Intelligences whose " bodies " are the Cosmic Elements, while ultimately it is the divine

energy, thought, or Will of the Logos, acting on the highest Plane of Mulaprakriti.

The atom E_1 cannot spring into existence of itself, neither do the sub-atoms on any of the lower sub-planes aggregate by any inherent power existing merely in E_1 as a separate and distinct entity. All are formed and moulded and shaped by substantial forces acting immediately from the astral Plane, and they are held and sustained and directed in their orbits by these substantial astral forces, even as are the Suns and Planets, which are themselves but sub-atoms in a larger Cosmos. These astral "forces" – which on their own plane are atomic – are the "soul" of the physical atoms.

In physical matter in its gross form, as it commonly appeals to our senses, we have no perception of this marvellous inner world of prodigious motion and activity, of inconceivable complexity and beauty of form. Yet modern science itself now goes a long way in opening up this inner infinitude to our mental vision, and showing us the reality of an inner invisible world, about which Occult Science has long since had its definite knowledge to impart.

Look at any piece of gross matter that you will, at any fragment of stone or metal. To the outer vision it is apparently dead, inert, motionless. Not so, however, in the light of what science now teaches us. Its very stability its very apparent motionlessness, is due to the intensity of its motion. It is motion alone which makes it a *thing*, which gives it mass or inertia, extension in space, and every other quality which we are in any way able to recognize.

The atom does not exist apart from motion or force there is no such thing as a physical particle, the "massy, hard, impenetrable" particle of the physics of last century. Modern Science itself has destroyed it, and thereby joined hands with the hidden Occult knowledge of the Ancients.

Our diagram can, of course, give no conception of the relative sizes of the atoms and sub-atoms; but here we

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may complete our mental picture by correspondence and analogy with what we see in the larger macrocosm of the Sun, Planets, and Stars.

What the Sun and Planets are to each other in relative size and distance, so are the component sub-atoms of any more complex atom or molecule.

Consider the whole Solar System as far as the orbit of the outermost Planet Neptune – and even beyond – to be a great Globe of Astral Ether, specially differentiated, how-ever, from the substance which fills the interstellar space beyond. The diameter of this Globe – as far as the orbit of Neptune – is 5,584,000,000 miles, but in reality the Globe itself is probably much greater than this, some Occult teachings giving it as over 300,000,000,000 miles.¹

Within this vast space are a few dots of physical matter, *i.e.*, the eight major Planets, with their Satellites, and the Asteroids. The whole vast Etheric Sun Globe may be considered as a single atom or molecule, the material bodies

within it being the constituent corpuscles or sub-atoms. We shall have more to say about this in our next chapter, but give it here as an illustration of comparative sizes.

It has been estimated that the size of the corpuscles compared with the size of the atom itself may be likened to a few specks the size of a printer's full-stop flying about in a space as large as the inside of a cathedral.

To show how nearly the conception of modern physicists as to the structure and nature of matter approaches the Occult teachings which we have now given, we may quote

¹ This might seem at first sight to be an exaggeration, but when we consider that the nearest fixed star, a Centauri, is estimated to be 24,750,000,000,000 miles away, we see that there is plenty of room for such a Globe. It is interesting here also to note that since the extreme limit of the orbit of Halley's great Comet is calculated at 3,370,000,000 miles, this body does not go outside the limits of the Solar Globe, according to the estimate of its size above given. It may, in fact, be said to be an integral part of the Solar System, as well as other Minor Comets.

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the following from Sir Oliver Lodge's *Modern Views of Electricity* (revised ed., 1907, p. 340) :

" Thus our hypothesis is as follows : — Throughout the greater part of space we find simple, unmodified ether, elastic and massive, squirming and quivering with energy, but stationary as a whole. Here and there, however, we find *specks of electrified ether*, isolated, yet connected together by fields of force, and in a state of violent locomotion. These 'specks' are what, in the form of prodigious aggregates, we know as ' matter ' ; and the greater number of sensible phenomena, such as viscosity, heat, sound, electric conduction, absorption and emission of light, belong to these differentiated or individualized and dissociated or electrified specks which are either flying alone or are revolving with orbital motion in groups. The ' matter ' so constituted — built up of these well-separated particles, with interstices enormous in proportion to the size of the specks — must be an excessively porous or gossamer-like structure, like a cobweb, a milky way, or a comet's tail ; and the inertia of matter — that is, the combined inertia of a group of electrified ether particles — must be a mere residual fraction of the mass of the main bulk of undifferentiated continuous fluid occupying the same space ; of which fluid the particles are hypothetically composed, and in which they freely move."

Finally, we may quote the following from *The Secret Doctrine* to show how clearly the complex nature of the chemical elements, and their resolution into other constituents, was understood by the writer :

"Even on the next higher plane, that single element which is defined on our Earth by current Science as the ultimate un-decomposable constituent of some

kind of Matter, would be pronounced in the world of a higher spiritual perception to be something very complex indeed. Our purest water would be found to yield, instead of its two declared simple elements of oxygen and hydrogen, many other constituents, undreamed of by our modern terrestrial Chemistry." (S.D., vol. I. p. 592. Oe.) (S.D., vol. I. p. 542, Ne.)

Of these " other constituents " the corpuscle or electron has now been discovered. Doubtless in due course some of the others will come to light as a further justification of the Occult teachings.

CHAPTER IX THE SUN AND SOLAR SYSTEM

The student of Occult Science needs above all to realize completely and fully how all things in the visible universe have their real root and being in the invisible *Pleroma*, or *Plenum*; in that which to the physical senses is simply void space.

"The duty of the Occultist lies with the *Soul* and *Spirit* of Cosmic Space, not merely with its illusive appearance and behaviour. That of official Physical Science is to analyze and study its *shell*—the Ultima Thule of the Universe and Man, in the opinion of Materialism." (S.D., vol. I. p. 645. Oe.) (S.D., vol. I. p. 589, Ne.)

The ordinary concept of the visible world of matter as being the *reality* must in fact be completely reversed, not merely in a metaphysical sense, but in actual, sober, physical fact.

Not only does the invisible *Æther*, or the Primordial Substance which fills all Space, contain the power and potency to produce all the forms of visible matter, and therefore, being the permanent *Root* of these, is so much more *real*, since the latter are only evanescent ; not merely is all visible matter actually composed of this invisible substance, being only, *qua* matter, a temporary form of motion therein ; not merely does physical matter thus float, as it were, in a boundless ocean of Primordial Substance —being, indeed, as regards its *special* value, only an infinitesimal and insignificant portion thereof —but in truth the real *potency* which at any and every moment of time makes

differentiations down to our gross physical Ether, which, however, is still invisible, impalpable, and imponderable to our physical senses.

" Æther, in Esotericism, is the very quintessence of all possible energy, and it is certainly to this Universal Agent (composed of many agents) that are due all the manifestations of energy in the material, psychic, and spiritual worlds." (S.D., vol. I. p. 554. Oe.) (S.D., vol. I. p. 508, Ne.)

This doctrine, which is shown in *The Secret Doctrine* to have been the teaching of Occultism in all ages, now finds an official confirmation in the latest pronouncements of modern physicists.

The student should already have realized very largely this absolute dependence of all phenomena upon the Æther, if due attention has been paid to what has gone before, and especially to our last chapter ; but we may here consider a very common and ordinary phenomenon which may help to bring it home to the mind more completely still.

Let us take the case of a steel chain supporting a heavy weight, it may be many tons. What are the *real* links in the chain : what is it that really supports the weight ? Physical Science itself tells us that *none of the atoms or molecules which compose the material steel are in actual contact with each other.*

Just consider for a moment what that means. There is an old fable about making ropes of sand, but if we could magnify our steel many million times we should see that it really consists of a number of isolated discrete atoms, separated from each other by distances much vaster, in comparison with their size, than is the case with the grains of sand. Moreover, we should not be able to see what held them together ; it would be invisible space to us.

If we took the single links of our steel chain and placed them a great distance apart, and then expected them to support a weight, we should look as foolish as if we tried

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to make ropes of sand ; yet the actual physical links of the chain *i.e.*, the atoms and molecules of the steel itself—are really thus separated. They are held together by what we know as the force of cohesion, and that force resides in the impalpable, imponderable Ether of apparently void space. It is that which really sustains the weight, and not the visible steel links, the atoms of the latter being only *centres of vortical motion through which stream-lines of Force belonging to the super-physical planes are able to play.*

That which really sustains not merely the enormous weights which we lift with our steel chains and ropes, but also every strain whatsoever to which matter is subjected in all our buildings and mechanical contrivances, is nothing to our physical senses, yet *all* in reality ; all our apparently " solid " matter is but a " gin an ocean of this impalpable substance, which thus is incomparably denser than

the densest metal, and contains at every point in space an intrinsic energy, compared with which any energy which we can liberate in our most powerful explosives is but a puny and impotent display. We must now transfer these ideas of the microcosm of the atom to the macrocosm of our Solar System, wherein we shall find the same forces at work in a similar manner for Nature is a unity, and correspondence and analogy must be our guide throughout. The Solar System is but an atom in Space.

The force which holds together the atoms of matter is called by physicists *cohesion* ; the force which holds together the Sun and Planets is called by them *gravitation*. How are we to conceive of the nature of these forces and their working ?

We have already referred to the lines of force which play between the atoms and sub-atoms, and which are roughly indicated in our diagram by the dotted lines. These lines are comparable to the well-known Faraday lines or tubes of magnetic induction, the direction of which

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may be made clearly visible by placing a magnet underneath a sheet of paper or glass, and then sprinkling iron filings on the sheet. These lines of force are *substantial things in the substance of the ether* ; and though they are apparently *static* to our perceptions, they are in reality in the most intense motion.

This point cannot be too clearly realized. There is no such thing as force without motion, not even so called *static force*, or potential energy. It is only static or potential so far as some particular or limited phenomenon or plane is concerned. If not apparently active on one particular plane, it is so on a higher or more internal one.

Now we have seen that our ultimate physical atom E_1 is itself composed of stream-lines of force, namely, of the " matter " of the next higher or *astral* plane, these stream-lines being the various spirals which make up the body of the atom. But in addition to this there are stream-lines of force acting between atom and atom, causing them to combine into the sub-atoms of the sub-planes Eg_2 , Eg_3 , etc. These stream-lines are *the real substantial things* which hold everything together, whether it be the ultimate atoms themselves or the compound molecules of which our steel is composed ; but they are *super-physical* ; their existence and activity is only visible to our physical senses through or in an enormous aggregate of these minute vortices constituting physical matter.

If now we would construct a mental picture of the Solar System, not in its outer physical appearance, but in that inner substantiality on which the outer depends at every moment of time for all its existence and phenomena, we must recognize these stream -lines of force acting and reacting, not merely between the visible mass or globe of the Sun and Planets, but also between every atom and molecule of the Sun and those of the Planets, and between every atom and molecule of any one Planet – our own, for example – and every other Planet.

We must put on one side once and for all the conception that *all* the atom, or *all* the Planet, or *all* the Sun is comprised within the limits of the mere visible shell. The atom, and the Planet, and the Sun exist on all the Planes of the Cosmos ; they have each and all their inner principles, which principles are simply modifications in varying degrees of the One Root Substance. Every form of " matter " whatsoever, on any Plane whatsoever, is that One Root Substance ; but it cannot become the matter of any " lower " Plane without first of all being differentiated through the " higher " Planes. How nearly modern science is approaching this concept may be seen in the following quotation from *The Ether of Space*, by Sir Oliver Lodge, (p. 98) :-

"Most natural philosophers hold, and have held, that action at a distance across empty space is impossible ; in other words, that matter cannot act where it is not, but only where it is. The question Where is it? is a further question that may demand attention, and require more than a superficial answer. For it can be argued, on the hydrodynamic or vortex theory of matter, as well as on the electrical theory, that every atom of matter has a universal though nearly infinitesimal prevalence, and extends everywhere, since there is no definite sharp boundary or limiting periphery to the region disturbed by its existence."

In relation to the atom, or the Planet, or the Sun, however, we must carefully consider that these principles are not inner in the sense that they are inside the physical shell, but in the sense that they are more interpenetrative and universal modes of the One Substance. If we must of necessity regard them three dimensionally, they exist rather on the outside of the atom, or Planet, or Sun, as a surrounding globe, sphere, or aura.

We must start, then, in our mental picture of the Solar System, with the conception that the real Sun – not the mere visible nucleus which we see with our physical eyes – is a vast Globe of Astral-Etheric Substance, extending far beyond the orbit of the outermost Planet.

Quoting from an article by Dr. B. W. Richardson, F.R.S., on " Sun-Force and Earth-Force," Madame Blavatsky says of his " caloric," which he postulates as being " a material substance flowing from the Sun through space " :

"Not only 'through space,' but filling every point of our Solar System, for it is the physical residue, so to say, of Ether, its ' lining ' (envelope) on our plane. Ether having to serve other cosmic and terrestrial purposes besides being the 'agent' for transmitting Light. It is the Astral Fluid or Light of the Kabalists, and the Seven Rays of Sun-Vishnu." {S.D., vol. I, p. 571. Oe.) (S.D., vol. I, p. 524, fn.

Ne.)

Ether in the above should be Æther, as we have already shown in Chapter III. ; and in this paragraph we have the Substance of the Sun Globe "filling every point of our Solar System," identified with the Astral Fluid or "Light": —

"The real substance of the concealed (Sun) is a nucleus of Mother-Substance. It is the Heart and Matrix of all the living and existing Forces in our Solar Universe. It is the Kernel from which proceed to spread on their cyclic journeys all the Powers that set in action the Atoms in their functional duties, and the Focus within which they again meet in their Seventh Essence every eleventh year. He who tells thee he has seen the Sun, laugh at him, as if he had said that the Sun moves really onward in his diurnal path." (S.D., vol. I. p. 309.) (S.D., vol. I. p. 290, Ne.)

Here we have a direct statement of the circulatory or vortical motions taking place within this vast Globe of the Sun. The visible Sun which we see conceals the real Sun, the " Kernel," which is a " nucleus of Mother-Substance." From this Kernel or Nucleus proceed all those substantial Forces, on all the Planes, upon which every activity within the whole vast System — which is all *within* the real Sun — depends.

This activity, however, is only made manifest to us physically in the physical phenomena of our own Globe, and of the other physical Globes or Planets, etc. It is here, then, in particular, that our conceptions of

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inner and *outer* must be reversed. The real Substance of the Sun being " Mother-Substance," that is to say —so far as our System is concerned—Primordial Substance, is a *space-filling* Substance. It cannot be a *smaller* thing than the whole space occupied by our System, i.e., the whole vast Sun Globe extending beyond the orbit of the outer-most Planet. It is not a small thing within the *visible* Sun, it is the Whole System, and we live in it, as it lives in us. It cannot be condensed into a nucleus within a material shell, for any form of matter whatsoever which may arise within its space-filling potency is but a modification of its inherent Motion — which Motion we also say is *Life*.

" Motion is eternal *per se*, and in the manifested Kosmos it is the Alpha and Omega of that which is called electricity, galvanism, magnetism, sensation—moral and physical—thought, and even life, on this plane." (*Trans. Blav. Lodge*, ii. p. 23).

But the Mother-Substance of our Solar System is not the real ultimate Primordial Substance, otherwise our Sun Globe would be coextensive with

infinite space. Such a "Globe," indeed, is the real Central Sun, from which our Sun is several times removed. The Mother-Substance of our Sun is already differentiated "Matter," and as such it can be condensed or gathered together into a Vortex or Globe; but, as compared with all the further differentiations and forms of matter within its own Sphere, it is Primordial or Root-Substance, and corresponds to Buddhi.

Unless care is taken to discriminate, some confusion may possibly be caused in the various references given in *The Secret Doctrine* to the place of the Sun in the septenary system. Considered *cosmically* in its relation to the *Cosmic Central Sun*, we may place our Sun Globe on the Astral Plane; but, so far as its own System is concerned, it is "Mother-Substance," or Buddhi.

All the three motions which we have noted in our atom

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E_1 will have their correspondence in the larger macrocosmic atom which is our Sun, these motions being rotational, circulatory, and pulsatory. (See S.D., vol. I. p. 112. Oe.) (S.D., vol. I. p. 84, Ne.)

"The Sun is the heart of the Solar World (System), and its brain is hidden behind the (visible) Sun. Thence sensation is radiated into every nerve-centre of the great body, and the waves of the life-essence flow into each artery and vein. . . . The planets are its limbs and pulses." (S.D., vol. I. p. 590. Oe.) (S.D., vol. I. p. 541, Ne.)

"During the manvantaric solar period, or life, there is a regular circulation of the vital fluid throughout our system, of which the Sun is the heart—like the circulation of the blood in the human body; the Sun contracting as rhythmically as the human heart does at every return of it. Only, instead of performing the round in a second or so, it takes the solar blood ten of its years to circulate, and a whole year to pass through its auricle and ventricle before it washes the lungs, and passes thence back to the great arteries and veins of the System." (S.D., vol. I. p. 591. Oe.) (S.D., vol. I. p. 541, Ne.)

Every atom, every Planet, every Sun is an organism, just as certainly as is our own body; it is an organized manifestation of the One Life. Moreover, there are fundamental correspondences between the various organs of our body—as indeed between every atom—and the "limbs and pulses" of the great Solar Body; these correspondences consisting in the fact that it is through these centres that the same cosmic forces play in the one as in the other, and therefore that they act and react upon each other.

"The atom (E_1) is a Sun in miniature in its own universe of the inconceivable minute. Each of the seven whorls is connected with one of the Planetary Logoi, so that each Planetary Logos has a direct influence playing on the very matter of

which all things are constructed. It may be supposed that the three (thicker whorls) conveying electricity, a differentiation of Fohat, are related to the Solar Logoi." (Occult Chemistry.)

We must look upon the Planets, then, as *centres* (centres of vortical motion) in which particular differentiations, manifestations, or activities of the One Life or Motion of the whole System have their seat. They are the organs of the great Solar Body, performing their own particular

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functions in the circulatory life of the whole. They are "Knots of Fohat." (*See Trans. Blav. Lodge*, ii. p. 28.)

As such they are also specially differentiated modes of the "Mother-Substance" ; and, so far as our own particular Planet is concerned, it consists of a Globe of physical Ether which, however, only becomes what we call physical matter in its three lowest subdivisions or differentiations as solid, liquid, and gas.

This etheric Earth Globe extends many thousands of miles beyond the surface of solid matter on which we live, its diameter having been given from one source as about 50,000 miles ; so that, since the diameter of the solid crust of the Earth is 8000 miles, the limit of this Globe will be about 21,000 miles above us.¹

So far as the revolution of our solid Earth on its axis is concerned, it is the revolution or vortical motion of this Etheric Earth Globe as a whole which causes that motion. We must remember that physical matter is but a slight, filmy, gossamer structure in the *substance* of the ether ; and, as such, it is carried along by etheric currents as a whiff of smoke or a thistledown in a current of air.

An indirect confirmation of this is to be found in the fact that physicists have looked in vain for any streaming of the Ether past the Earth, caused by the motion of the latter in its orbit round the Sun. The velocity of this motion is 19 miles per second ; and if the Earth is a body moving through the Ether, some optical effects ought to be observable. The most ingenious and delicate experiments have been devised in order to detect such effects if they really exist, but every one of these has yielded a negative result. This would naturally be so according to the Occult teaching that the Ether revolves with the solid Earth, or rather the solid Earth with the Ether.

It is at the outskirts of this Etheric Globe, in its "atmosphere," that the differentiations of the various

¹ See Thos. E. Wilson, *Ancient and Modern Physics*.

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"elements" referred to in Chapter VII. take place ; and we must notice here one very important result of this, a result frequently insisted upon in *The Secret Doctrine*, since it entirely modifies the ordinary conceptions as to the nature of

the Sun, and of celestial bodies outside of our Globe or System, and also of the nature of the energy which we receive from the Sun.

The teaching of *The Secret Doctrine* in this matter is simply this : that every form or mode of substance or matter, as also every form or mode of force or energy, becomes modified when it enters the sphere of the Earth, so that it takes on, in those forms in which we sense it, the particular quality or nature of the differentiated matter of this Globe ; and, therefore, for that reason, we cannot judge from its *physical* effects the real nature of the substance, force, or energy at its primal source, nor even at its apparently physical origin in the Sun, etc.

Since our sense-organs are only constructed to observe physical effects, it is of course only when modes of substance or energy become converted into physical modes that we can take cognizance of them at all ; and *The Secret Doctrine* insists that for this reason the apparently similar physical constitution of the Sun and Stars, the Nebulae, Milky Way, etc., as disclosed by the telescope or spectroscope, is quite deceptive.

Our eyes, in fact, are only adapted to receive the vibrations of *physical* Ether; and though these are produced by harmonic response to the vibrations of *astral* Ether coming to us from the Sun, or of *interstellar* Ether coming from the stars, it is not by means of either of these that we see, either through our telescopes or in our spectroscopic observations, but by means of the modified physical Ether. Therefore we do not get a correct observation or knowledge of the real constitution of the Sun, etc.

We have, of course, an exact analogy of this in the case of our organ of hearing. Our ears can only appreciate

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sound through the medium of the air ; and if other vibrations are to be heard – as for example the vibrations of a string, or the electric pulses transmitted through a telephone wire – they must be converted or transformed into appropriate pulsation of the atmosphere.

" Now what does physical Science tell us of these ' Forces ' ? Sound, it says, is a sensation produced by the impact of atmospheric molecules on the tympanum, which by setting up delicate tremors in the auditory apparatus, thus communicate their vibrations to the brain. Light is the sensation caused by the impact of inconceivably minute vibrations of ether on the retina of the eye.

" So, too, say we. But these are simply the effects produced in our atmosphere and its immediate surroundings – all, in fact, which falls within the range of our terrestrial consciousness." {S.D., vol. I. p. 605. Oe.) (S.D., vol. I. p. 554, Ne.)

We need another sense – more than one sense, in fact to make visible the reality and *substantiality* of the inner Planes of Substance. We have already given in Chapter VII. some quotations indicating the natural evolution of these super-

physical senses in the coming Humanity. Meanwhile, it is not impossible that physical science may find a means of "transforming down" higher etheric vibrations, in such a way as to produce telescopes and spectroscopes of enormous penetrating power, which shall give us more accurate information as to the real constitution of bodies both within and outside of our own particular System.

It should be clearly realized that all the vibrations on all the higher Planes are here, at every point of space ; it is only a few which, by sympathetic vibration with the vibra-

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tions of the already formed physical Ether, become for us physically observable phenomena.

"In no way—as already more than once stated—do the Occultists dispute the explanations of Science as affording a solution of the immediate objective agencies at work. Science only errs in believing that, because it has detected in vibratory waves the *proximate* causes of these phenomena, it has therefore revealed *all* that lies beyond the threshold of Sense. It merely traces the sequence of phenomena on the planes of effects, illusory projections from the region that Occultism has long since penetrated. And the latter maintains that those etheric tremors are not set up, as asserted by Science, by the vibrations of the molecules of known bodies, the Matter of our terrestrial objective consciousness, but that we must seek for the ultimate Causes of light, heat, etc. in Matter existing in supersensuous states." (S.D., vol. I. p. 561. Oe.) (S.D., vol. I. p. 515, Ne.)

"While the spectroscope has shown the probable similarity (owing to the chemical action of terrestrial light upon the intercepted rays) of terrestrial and sidereal substance, the chemical actions peculiar to the variously progressed orbs of space have not been detected, nor proven to be identical with those observed on our own planet." (S.D., vol. I. p. 654. Oe.) (S.D., vol. I. p. 597, Ne.)

"Neither the stars nor the Sun can be said to be constituted of those terrestrial elements with which the chemist is familiar, though they are all present in the Sun's outward robes—as well as a host more of Elements so far unknown to Science. . . . Though no Element present on our Earth could ever possibly be found wanting in the Sun, there are many others there which have either not reached or not as yet been discovered on our globe." (S.D., vol. I. p. 638. Oe.) (S.D., vol. I. p. 583, Ne.)

We must note carefully that when Madame Blavatsky speaks here of *Elements*, she does not necessarily mean our chemical elements in their present state, for she says, further :

"Some (elements) may be missing in certain stars and heavenly bodies in the

process of formation ; or, though present in them, these elements, on account of their present state, may not respond as yet to the usual scientific tests." (S.D., vol. I. p. 638. Oe.) (S.D., vol. I. p. 583, Ne.)

She also remarks, further :

" Occult Science adds, that not one of the Elements regarded as such by Chemistry really deserves the name."

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The Secret Doctrine, then, asserts definitely that not merely is the matter of the vast Sun Globe a " nucleus of Mother-Substance," which Substance is totally unknown, and indeed unknowable, to physical Science, but also the visible Sun which we examine with our telescopes and spectroscopes is composed of Matter or Substance which is totally different from anything with which we are physically familiar.

Physical Science, advancing from the known to the unknown, from the familiar to the unfamiliar, must inevitably, in its earliest theories respecting any phenomenon whatsoever, fall into the common error of primitive knowledge, that of crude realism, of accepting things at their face value, of interpreting the unknown or unfamiliar simply in terms of the known.

We have already seen how this applies to the theories of matter which prevailed during the last century, and which are held even now by some conservative physicists—the theory, namely, that the ultimate atom must be simply a smaller piece of that which is apparent in bulk to our physical senses, a "solid, massy, hard, impenetrable, movable particle."

In its application to the Sun, this crude and primitive realism inevitably resulted in the first instance in the idea that the Sun was a huge bonfire, a mass of combustion. The difficulty, however, of accounting for any supply of fuel which would last out even the smallest estimate of the age of the Sun, led to further theories, the one which was most confidently asserted some years ago being the shrinkage theory, according to which the Sun's heat was due to a gradual contraction of its mass. With the discovery of Radium, physical Science has a new theory to work on, and the disintegration of physical atoms seems to offer a better basis for thermo-dynamic calculations than any previous theory.

But The Secret Doctrine rejects all these theories, and

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long before Radium was discovered it taught definitely that (a) the energy radiated from the Sun is not heat energy ; and (b) the " Matter " of the Sun is quite other than that with which we are physically acquainted.

" It has been stated elsewhere that Occult philosophy denies that the Sun is a globe in combustion, but defines it simply as a world, a glowing sphere, the real

Sun being hidden behind, and the visible Sun being only its reflection, its shell." (S.D., vol. I. p. 590. Oe.) (S.D., vol. I. p. 541, Ne.)

" The spectroscope has helped us to see that the elements with which the modern chemist is familiar must in all probability be present in the Sun's outward ' robes ' *not in the Sun itself* ; and, taking these ' robes,' the solar cosmic veil, for the Sun itself, the Physicists have declared its luminosity to be due to combustion and flame, and, mistaking the vital principle of that luminary for a purely material thing, have called it ' chromosphere.' " (S.D., vol. I. p. 576. Oe.) (S.D., vol. I. p. 528, Ne.)

"Foremost of all, they (the Astronomers) would have to repudiate their ideas of the Sun's solidity and incandescence : the Sun 'glowing' most undeniably, but not burning." (S.D., vol. I. p. 646. Oe.) (S.D., vol. I. p. 591, Ne.)

" The Sun is the storehouse of Vital Force, which is the Noumenon of Electricity ; and it is from its mysterious, never-to-be-fathomed depths that issue those life-currents which thrill through Space, as through the organisms of every living thing on Earth." (S.D., vol. I. p. 579.) (S.D., vol. I. p. 531, Ne.)

Thus the Sun is not a cooling body, neither is its Energy, as Science supposes, radiated away into space, but is conserved within its own System, circulating to the extreme limits thereof, and returning periodically to the centre.

What, then, it will be asked, of the light-waves which we must suppose go out into space to make our Sun visible to possible inhabitants of other Systems, even as those other Systems are visible to us ?

The answer to this question is the same as that which we have already given respecting the so-called light-waves which we receive from the Sun. The " light " and " heat " which we receive from the Sun, as also from the distant Stars, is not light and heat until it is converted or transformed into these forms of energy within the sphere of

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" Matter " (" atmosphere ") of our Earth Globe ; just as these latter forms of energy are converted into something else chemical action, etc. — when they enter the denser matter, gas, liquid, or solid, in plants and other organisms. The thermodynamic calculations about the amount of energy received from the Sun by our Earth and the other Planets — our Earth being supposed to receive only about one 2,300- millionth of the whole radiated energy of the Sun, and all the Planets put together only a little more : the rest being radiated away, and apparently lost in space — all this is considered by Occult Science to be pure fiction.

Outside our Solar System the " light " which the Sun transmits into space, as also that which comes to us from the distant Stars, is quite another form of energy to that which the Sun radiates within its own System. This latter is, as we have already stated, a form of Vital Electricity appropriate to the " Mother-Substance " of the Sun Globe in which it circulates.

" The Nasmyth willow leaves, mistaken by Sir John Herschell for ' solar inhabitants,' are the reservoirs of solar vital energy ; the vital electricity that feeds the whole system ; the sun in abscondito being the storehouse of our little Cosmos, self-generating its vital fluid, and ever receiving as much as it gives out." (S.D., vol. I. p. 591. Oe.) (S.D., vol. I. p. 541, Ne.)

It may be objected, that since the Sun and other sidereal bodies do obviously radiate some form of energy into space beyond their own limits or systems, that energy must have a physical equivalent, expressible in thermo-dynamic terms and that, therefore, they must be parting with a certain amount of energy, and are not wholly self-contained.

This is perfectly true, only the equivalence is not anything which can be calculated on a physical basis. At every remove from the physical plane the equivalence becomes enormous as compared with its physical effects. We know that a small quantity of Radium continually emanates a sufficient amount of energy to keep its tempera-

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ture about 3° above that of the surrounding atmosphere and it would probably do this for hundreds or even thousands of years without our being able to measure any appreciable difference or diminution in the supply of energy or in the weight of the substance.

The energy radiated by the Sun into space beyond its own system is many times removed in its substantial nature from the energy radiated by Radium, and no thermo-dynamic calculations can possibly be applicable to it.

We have already mentioned (p. 107) that the diameter of the whole vast Sun Globe has been given as 300,000,000,000 miles, or 147,208,000,000 miles beyond the orbit of Neptune.¹ But outside the Solar System, that is to say, outside the vast Sun Globe of (cosmic) Astral Matter, we come upon " Matter " (or Ether) in another and still higher state. A reference to our diagram on p. 85 will show that this must be *Pranic* in its nature, since the Pranic Plane is the next beyond the Astral.

This Pranic matter will, in its turn, be a vast Globe, with a definite centre round which our Astral Solar Globe, with all its contained physical Globes, revolves, as also do count-less numbers of similar Systems in the expanse of our Cosmos. The centre of this Pranic Globe is said to be situated in Alcyone in the Pleiades.

"The Pleiades (Alcyone especially) are thus considered, even in Astronomy, as the central point around which *our universe of fixed stars revolves*, the focus from which, and into which, the Divine Breath, Motion, works incessantly during the Manvantara." (S.D., vol. II. p. 582. Oe.) (S.D., vol. II. p. 551, Ne.)

But this Pranic Globe is still only two removes from our physical Matter or Globe, and beyond it again is a still *vaster* Globe of *Manasic* "Matter," having as its centre the great *Central Sun*, whose position in space we are not given; indeed, since it is outside every visible Celestial

¹ Thos. E. Wilson, *Ancient and Modern Physics*.

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object, it would be impossible to give it, though it is said to be situated in the Milky Way. (See S.D., vol. II. p. 250, fn. Oe.) (S.D., vol. II. p. 240, fn. Ne.)

"Outside the boundaries of the Solar System, it is other Suns, and especially the mysterious *Central Sun* that determines the motion and the direction of bodies. That motion serves also to differentiate the homogeneous matter, round and between the several bodies, into elements and sub-elements unknown to our Earth." (S.D., vol. I. p. 736. Oe.) (S.D., vol. I. p. 673, Ne.)

Speaking of this *Central Sun* as taught in the Kabalistic system, Madame Blavatsky endorses the following statement as being practically the same as the Eastern Doctrine :

"The central sun was to them (the Kabalists) the *centre of rest* ; the centre to which all motion was to be ultimately referred. Round this central sun *the first of three systemic suns revolved on a polar plane ; . . . the second, on an equatorial plane ' ; and the third only was our visible sun. These four solar bodies were '*the organs on whose action what man calls the creation, the evolution of life on the planet earth, depends.*' The channels through which the influence of these bodies was conveyed to the earth they (the Kabalists) held to be electrical." (S.D., vol. II. p. 250. Oe.) (S.D., vol. II. p. 240, Ne.)

Modern Science now confirms this to the extent of teaching that the energy which comes to us from the Sun is an electro-magnetic disturbance of the ether, some part of which only our eye is able to appreciate as light.

Each atom of our physical matter, as also of every organism, is surrounded and interpenetrated with an aura of astral, pranic, and manasic "matter" ; and therefore is in touch, through this, with the corresponding Globes or "Planes." It is, in fact, a part of each Globe, and receives and responds in its own special manner to the special vibrations, or currents, or modes of energy belonging to and circulating in each.

By correspondence and analogy we shall see that just as the inherent energy of the Sun Globe becomes converted within our Etheric Earth Globe into its appropriate vibra-

tions and physical forms of energy, so also the still higher vibrations or inherent motion of the higher substance of the Pranic Globe become converted within our Sun Globe into its appropriate forms; whilst the highest vibrations of all, emanating from the Manasic Globe, appear in a transmuted form in the Pranic Globe. In reality, therefore, it is these primal vibrations which are transmuted and reflected in each of the lower Globes, taking on therein its appropriate forms as the " Matter " of those Globes and each lower Globe serving in its turn as a focus, or lens, or prism, to condense, gather up, concentrate, and individualize the higher modes of substantial energy or *Life*. This was clearly enunciated by Madame Blavatsky in *Isis Unveiled* (vol. i. p. 258).

" It was at the ray of this First Mother, one in three, that ' God,' according to Plato, ' lighted a Fire which we now call the Sun,' and which is not the cause of either light or heat, but merely the focus, or, as we might say, the lens, by which the Rays of the Primordial Light become materialized, are concentrated upon our Solar System, and produce all the correlations of forces." (See extended quotation, (S.D., vol. I. p. 634. Oe.) (S.D., vol. I. p. 580, Ne.)

We must remember that each atom of "matter," on whatsoever plane, is Primordial Substance, and cannot become anything else, however much it may appear to be separated, by reason of its involved motion, from the highest or most cosmic form of that Substance.

" The waves and undulations of Science are all produced by atoms propelling their molecules into activity from within. Atoms fill the immensity of Space, and by their continuous vibration are that Motion which keeps the wheels of life perpetually going. It is that inner work that produces the natural phenomenon called the correlation of Forces." (S.D., vol. I. p. 694. Oe.) (S.D., vol. I. p. 633, Ne)

But the *inner* atom which propels the molecule into activity is not a smaller thing on the same plane, but a larger thing on a higher plane. As said long ago :—

" Our molecules, the infinitesimals of the vacuum ' below,' are replaced by the giant-atom of the Infinitude 'above.'" (See *Five Years of Theosophy* p. 247.)

Or again :—

" In the realm of Esoteric Science the Unit divided ad infinitum, instead of losing its unity, approaches with every division the planes of the only Eternal Reality." (S.D., vol. I. p. 677. Oe.) (S.D., vol. I. p. 617, Ne.)

These apparently paradoxical sentences may now be understood in the explanation above given of the four Sun Globes ; for, as we have already said, the Sun is an atom—and so is each of the larger Sun Globes. Each one energizes or " propels their molecules " *i.e.*, the Globes on the lower or grosser planes—into activity *from within*.

In the downward descent or evolution of matter, the pranic atom will still be surrounded and interpenetrated by its shell or *aura* of manasic matter. In like manner the astral atom will have a shell of both pranic and manasic matter ; while our physical atom has three such shells or auras, *i.e.*, astral, pranic, and manasic. Each of these auras *is* in, and part of, the great cosmic Globes or " Planes " we have above described.

When the physical atom, or the physical organism, responds to the astral vibrations or currents, the vibrations of the Solar Ether, we have physical Plane phenomena ; as, indeed, modern Science itself now teaches : every physical phenomenon being dependent on the activity of the " Ether."

When the atom or organism responds to the pranic vibrations or currents, we have the phenomenon of " *life* "—as recognized by Biologists—though Occultists say that no single atom fails to respond thus ; that no single atom of matter is " dead."

When the atom or the organism responds to the manasic vibrations in addition to the others —as indeed every atom and organism must do, though the action may not be recognizable by us —we have the further phenomenon of *mind* (lower manas, in the ordinary theosophical division of the seven principles).

There is another sense in which the three Suns supply man with his Atma-Buddhic, Manasic, and Kama-Rupic

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principles. This, however, is when we apply our classification or scale-rule in another manner. (See S.D., vol. II. p. 251. Oe.) (S.D., vol. II. p. 240, Ne.)

Here, then, we have the key to the " Chain of Globes " so often referred to in early theosophical literature, and at that time so badly misunderstood. Above and beyond—or rather *within* and still *within*—these four cosmic Globes or " Planes " which constitute the material phenomenal Universe, lies the eternal, imperishable Noumenal or Spiritual Universe, from whence all the lower issues on its great evolutionary cycle of existence, and to which it must inevitably return again in due time when the great " Day of Brahma " has once more run its course, when the Solar Pralaya sets in, and the " Breath " of the One Life is once more indrawn.

In this chapter we have only turned the first page of Occult Solar Physics. It would require a complete volume in itself to elucidate, even in outline, the matter which might be gleaned from the few scattered, but profoundly significant hints, which are to be found in *The Secret Doctrine*.

Whether we consider its science or its philosophy, its physics or its

metaphysics, the structure of the manifested phenomenal universe as thus disclosed in the Occult Teachings is assuredly unsurpassed in its logical and coherent completeness, in its profundity yet essential simplicity, and in its harmonious unity.

CHAPTER X FOHAT, ELECTRICITY, AND CORRELATED FORCES

No work on the Physics of *The Secret Doctrine*, or on the general scheme of Cosmic Evolution therein set forth, would be complete without some reference to *Fohat*.

The subject, however, is a very difficult and obscure one, and would appear to belong to metaphysics rather than to physics. There is a constant connection made between Fohat and Life, and at the same time between Life and Electricity, almost necessitating that all three should be treated together. At all events we must deal with Fohat and Electricity at one and the same time in this chapter.

Physically, Fohat may be described as the *Noumenon* of all other Cosmic Forces ; as the Root of these in the same sense that Primordial Substance or Mulaprakriti is the Root of all the Cosmic differentiations of Matter.

But Fohat is also very much more than that. It, or he—for both pronouns are used in *The Secret Doctrine*—is described as :—

" That which links Spirit to Matter, Subject to Object the ' bridge ' by which the Ideas existing in the Divine Thought are impressed upon Cosmic Substance as the Laws of Nature." (S.D., vol. I. p. 44. Oe.) (S.D., vol. I. p. 16, Ne.)

We have seen in Chapter III. that these " Divine Ideas " are in the first instance represented by the Logos, and

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secondarily by the Dhyan Chohans. Accordingly we find Fohat defined as :—

" The dynamic energy of Cosmic Ideation ; or, regarded from the other side, it is the intelligent medium, the guiding power of all manifestation, the Divine Thought transmitted and made manifest through the Dhyan Chohans, the Architects of the visible World." (S.D., vol. I. p. 44. Oe.) (S.D., vol. I. p. 16, Ne.)

But this "link between Mind and Matter" is further described as:—

"The animating principle electrifying every atom into life " (S.D., I. 44, Oe).
(S.D., vol. I. p. 16, Ne.)

" That occult, electric, vital power which, under the Will of the Creative Logos, unites and brings together all forms, giving them the first impulse, which in time

becomes law (S.D., I. 134, Oe) (S.D., vol. I. p. 109, Ne.)

"The personified electric vital power, the transcendental binding unity of all cosmic energies, on the unseen as on the manifested planes, the action of which resembles—on an immense scale—that of a living Force created by Will, in those phenomena where the seemingly subjective acts on the seemingly objective, and propels it to action" (S.D., I. 136, Oe.) (S.D., vol. I. p. 111, Ne.)

The connection of Fohat with Life is still further stated to be :—

"The active force in Universal Life" (I. 136, Oe.) (I. p. 111, Ne.), and "It is the action of Fohat upon a compound or even a simple body that produces life " (S.D., I. 573, Oe). (S.D., vol. I. p. 526, fn. Ne)

The following passages will serve to show how closely, in *The Secret Doctrine*, Electricity as well as Fohat is identified with Life :—

" He (Fohat) is One and Seven, and on the cosmic plane is behind all such manifestations as light, heat, sound, adhesion, etc., etc., and is the ' spirit ' of electricity, which is the Life of the Universe." (S.D., I. p. 163. Oe.) (S.D., vol. I. p. 139,Ne)

"In its secondary aspect, Fohat is the Solar Energy, the electric vital fluid, and the preserving Fourth Principle, the Animal Soul of Nature, so to say, or Electricity." (S.D., I. p. 136. Oe.) (S.D., vol. I. p. 111, Ne.)

There are many other passages which present Fohat in such a bewildering variety of aspects that he would appear to be almost everything in Heaven or on Earth ; but from what we know of the apparently method-less method of *The Secret Doctrine*,

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we should gather that behind this lies a most carefully guarded Occult secret ; not altogether beyond the reach, perhaps, of the deeply intuitive student, but at the same time so presented as to be the despair of those who expect the teachings of Occultism to be as self-evident to the materialistic mind as are the axioms of Euclid, and as demonstrable as his propositions.

We may confine our attention now more exclusively to the connection of Fohat with Electricity and other correlated forces.

We must note in the first place that electricity, as known to us in its physical effects, is —like light, heat, etc., as shown in our last chapter—only a very secondary effect of primal causes many times removed from the plane of our perception.

“Shall we say that Force is ‘ moving Matter,’ or ‘ Matter in motion,’ and a

manifestation of Energy; or that Matter and Force are the phenomenal differentiated aspects of the one primary, undifferentiated Cosmic Substance ?

" This query is made with regard to that Stanza [*of the Book of Dzyan*] which treats of Fohat and his 'Seven Brothers, or Sons,' in other words, of the *cause* and the *effects* of Cosmic Electricity, the Brothers or Sons of Occult parlance being the seven primary forces of Electricity, whose purely phenomenal, and hence grossest, effects are alone cognizable by Physicists on the cosmic, and especially on the terrestrial plane. These include, among other things, Sound, Light, Colour, etc." (S.D., I. p. 605. Oe.) (S.D., I. p. 554, Ne.)

The " seven primary forces of Electricity " we may identify again with the seven Protyles, or Cosmic Elements.

In some of her very earliest writings Madame Blavatsky stated that electricity was atomic, and that matter was electricity. This statement was much ridiculed at the time, but is now almost orthodox Science.

"In 1882, the President of the Theosophical Society, Col. Olcott, was taken to task for asserting in one of his lectures that Electricity is matter. Such, nevertheless, is the teaching of the Occult Doctrine. ' Force,' ' Energy,' may be better names for it, so long as European Science knows so little about its true nature

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yet matter it is, as much as Ether is matter, since it is as atomic, though indeed several removes from Ether. It seems ridiculous to argue that because a thing is imponderable to Science, therefore it cannot be called matter. Electricity is ' immaterial ' in the sense that its molecules are not subject to perception and experiment ; yet it may be—and Occultism says it is—atomic therefore it is matter. But even supposing it were unscientific to speak of it in such terms, once Electricity is called in Science a source of Energy, Energy simply, and a Force—where is that Force or that Energy which can be thought of without thinking of matter? Maxwell, a mathematician, and one of the greatest authorities upon Electricity and its phenomena, said, years ago, that Electricity was matter, not motion merely. ' If we accept the hypothesis that the elementary substances are composed of atoms, we cannot avoid concluding that electricity also, positive as well as negative, is divided into definite elementary portions, which behave like atoms of electricity.' " (S.D., I. p. 136. Oe.) (S.D., I. p. 111, fn. Ne.)

We now find Sir J. J. Thompson, in his recent presidential address to the British Association, saying :—

" We now know from these investigations (discharge of electricity through gases) that electricity, like matter, is molecular in structure ; that just as a

quantity of hydrogen is a collection of an immense number of small particles called molecules, so a charge of electricity is made up of a great number of small charges, each of a perfectly definite and known amount."

Referring further to the connection between matter and electricity he says :—

"The most natural view to take, as a provisional hypothesis, is that matter is just a collection of positive and negative units of electricity, and that the forces which hold atoms and molecules together, the properties which differentiate one kind of matter from another, all have their origin in the electric forces exerted by positive and negative units of electricity, grouped together in different ways in the atoms of the different elements."

In the distinction which Occult Science would make, however, between Matter and Substance, we should rather say that Electricity is Matter only in its lowest or physical manifestation.

Here is a further enunciation—written in 1889—by

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Madame Blavatsky of the modern electronic theory of matter :—

"Electricity is on our plane one of the most comprehensive aspects of this (primordial) fire. All contains and is Electricity, from the nettle which stings to the lightning which kills, from the spark in the pebble to the blood in the body. . . Electricity is the cause of the molecular motion in the physical universe, and hence also here on Earth. It is one of the 'principles' of matter ; for, generated as it is in every disturbance of equilibrium, it becomes, so to say, the Kamic element of the object in which this disturbance takes place." (Trans. Blav. Lodge, ii. p. 27.)

But it is also a force, or forces; its "Seven Brothers or Sons" are the correlated forces, light, heat, sound, cohesion, etc.,—or rather, perhaps, the *noumenon* of these for, as Madame Blavatsky remarks in the above quotation, " where is that Force or that Energy which can be thought of without thinking of matter," since it is only in or through matter that these " forces " are manifested to our senses ?

"All these— 'Light,' 'Flame,' 'Cold,' 'Fire,' 'Heat,' 'Water,' and ' Water of Life '—are on our plane, the progeny, or, as a modern Physicist would say, the correlations of Electricity. Mighty word, and a still mightier symbol ! Sacred generator of a no less sacred progeny !— of Fire—the creator, the preserver and the destroyer ; of Light—the essence of our divine ancestors ; of Flame—the soul of things. Electricity, the One Life at the upper rung of Being, and Astral Fluid, the Athanor of the Alchemists, at the lower; God and Devil, Good and Evil." (S.D., vol. I. p. 109. Oe.) (S.D., vol. I. p. 81, Ne.)

"The Seven Son-Brothers, however, represent and personify the seven forms of cosmic magnetism, called in practical Occultism the 'Seven Radicals,' whose cooperative and active progeny are, among other energies, Electricity, Magnetism, Sound, Light, Heat, Cohesion, etc. Occult Science defines all these as supersensuous effects in their hidden behaviour, and as objective phenomena in the world of sense ; the former requiring abnormal faculties to perceive them, the latter cognizable by our ordinary physical senses." (S.D., vol. I. p. 169. Oe.) (S.D., vol. I. p. 145, Ne.)

There are two modern doctrines which are the special product of the physical Science of the nineteenth century.

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They are those of the Indestructibility of Matter and the Conservation of Energy.

So far as the first of these is concerned, we now know that it is not true in the original sense in which it was formulated, as meaning the indestructibility of the chemical atom. Neither is there any reason to suppose that it is any truer of the corpuscle or electron, that in this particle we have found the final and irresolvable form of matter. Physical Science has, however, probably a long time to wait before any definite evidence of such further resolution or subdivision can be given ; that is to say, before it can be made evident or observed as a *physical* effect. We have already seen how completely and fully *The Secret Doctrine* deals with both the physical and the metaphysical question of the resolution of matter into its root Element or Substance.

But now, what shall we say of the Conservation of Energy ? It is a doctrine which, though only provable within a very narrow range of observable phenomena, modern Science has not hesitated to postulate as a universal principle, applicable in every region of the phenomena of matter and force. It carries with it by implication the possibility of converting every form or mode of energy into every other form or mode, either directly or indirectly. Here, as we have already seen. Occult Science is absolutely at one with the modern concept, but goes so much further in postulating that at root there is only *One Force*, which for the present we may call either Fohat, or Electricity, or the One Life.

But Occult Science goes one step further than that, and combining the two dogmas of modern Science into one unitary concept, postulates the existence of One Primordial *Force-Substance*, or *Substance-Principle*, which is either Force or Matter according to the aspects under which it is viewed by limited and conditioned modes of Consciousness.

This is practically the position on which modern Science

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is now being forced to fall back, though it is hardly as yet definitely formulated, nor are the philosophical and metaphysical deductions which follow therefrom, and which are so clearly set forth in *The Secret Doctrine*, by any means as yet

definitely perceived and understood. The Force -Substance of modern Science is simply the Ether – with nothing beyond it.

In *The Secret Doctrine*, however, we have not merely the fundamental principle, but also the logical deductions set forth with a wealth of language and historical and literary evidence which cannot be gainsaid.

" The fundamental law of that system (of Ancient Cosmogony), the central point from which all emerges, around and towards which all gravitates, and upon which is hung all its philosophy, is the One Homogeneous Divine Substance-Principle, the One Radical Cause.

"It is called 'Substance-Principle,' for it becomes 'Substance' on the plane of the manifested Universe, an Illusion, while it remains a ' Principle ' in the beginningless and endless abstract, visible and invisible Space. It is the omnipresent Reality, impersonal because it contains all and everything. Its Impersonality is the fundamental conception of the System. It is latent in every atom of the Universe, and is the Universe itself." (S.D., vol. I. p. 294. Oe.) ((S.D., vol. I. p.,273, Ne.)

Foremost among the deductions from this fundamental principle is this, that this Force-Substance must be of a Conscious Intelligent Nature ; or, in other words, it is Life.

Here, indeed, is the meeting-ground of the two extremes of Idealism and Materialism ; for since Materialism postulates that Matter can *think*, we see that Matter must be subject as well as object. In this very postulate, indeed. Materialism stultifies its own primary assertion that Matter is dead for if it is dead it cannot be conscious. No conglomeration of dead atoms can ever be supposed to make any one or more of them conscious or *aware* of the others.

But we must confine our attention now to the one essential quality or attribute of this Primordial Force-Substance which is associated with our physical concepts of it.

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That one essential quality is inherent, eternal, perpetual Motion.

" Its one absolute attribute, which is Itself, eternal, ceaseless Motion, is called in esoteric parlance the Great Breath, which is the perpetual motion of the Universe, in the sense of limitless, ever-present Space." (S.D., vol. I. p. 32. Oe.)

(S.D., vol. I. p. 2, Ne.)

" The Occultists – who, if they would express themselves correctly, do not say that matter, but only the *substance* or *essence* of matter (i.e., Mulaprakriti, the Root of all) is indestructible and eternal – assert that all the so-called Forces of Nature, electricity, magnetism, light, heat, etc., etc., far from being modes of motion of material particles, are in *esse* – i.e., in their ultimate constitution – the

differentiated aspects of that Universal Motion which is discussed and explained in the first pages of this volume. When Fohat is said to produce Seven Laya Centres, it means that, for formative and creative purposes, the *Great Law* — Theists may call it God — stays, or rather modifies, its perpetual motion on seven invisible points within the area of the Manifested Universe. *The Great Breath digs through Space seven holes into Laya,¹ to cause them to circumgyrate during Manvantara, says the Occult Catechism.*" (S.D., vol. I. p. 171. Oe.) (S.D., vol. I. p. 147, Ne.)

Here we have Fohat introduced as the intelligent Agent in the production of the circular or circumgyrate motion which is the primary form of motion in the manifested Cosmos.

Occult Philosophy draws a deep distinction between the perpetual Motion of the One Eternal Principle and the finite motion of the periodic aspects of this Principle : namely, its temporary though periodical manifestations in the Maya of the objective or phenomenal world or Universe.

" '*Motion is eternal in the unmanifested, and periodical in the manifest,*' says an Occult teaching. It is '*when heat caused by the descent of Flame into primordial matter causes its particles to move, which motion becomes the Whirlwind.*'" (S.D., vol. I. p. 124. Oe.) (S.D., vol. I. p. 97, Ne.)

" All the Christian Kabalists understood well the Eastern root idea. The active Power, the 'Perpetual Motion of the Great Breath,' only awakens Cosmos at the dawn of every new Period, setting it into motion by means of the two contrary Forces, the

¹ For an explanation of the word Laya, see the continuation of this quotation.

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centripetal and the centrifugal Forces, which are male and female, positive and negative, physical and spiritual, the two being the one *Primordial Force*, and thus causing it to become objective on the plane of Illusion. In other words, the dual motion transfers Cosmos from the plane of the eternal ideal into that of finite manifestation, or from the *noumenal* to the *phenomenal* plane." (S.D., vol. I. p. 302. Oe.) (S.D., vol. I. p. 282, Ne.)

It is only with the latter, the phenomenal plane, that we have now to deal, and accordingly we find that the first aspect of this Primordial Motion is the circumgyratory or orbital motion of the Seven Primary Centres, or Sun- Globes (only four of which, however, belong to the material universe), this motion being made visible to us on the physical plane in the orbital motion of the heavenly bodies. We have also seen that we have to deal with the same kind of motion in the microcosm of the atoms and sub-atoms of our physical matter.

Physically considered, this circumgyrating or vortical motion appears to be produced in the first instance by a differentiation of the One Force into two aspects, or two polarities, which immediately appear as opposites.

Many names may be given to these opposites, both physically and metaphysically, as in the quotation above. The most familiar physical example of this dual aspect of one and the same thing is in electrical or magnetic phenomena of attraction and repulsion.

It will be best, perhaps, to adhere to these two latter terms as expressing the duality of the One Force, not merely in its lower phenomenal development, but even in its primary aspects.

" Thus the Occultists are not alone in their beliefs. Nor are they so foolish, after all, in rejecting even the 'gravity ' of Modern Science along with other physical laws, and in accepting instead *attraction* and *repulsion*. They see, moreover, in these two opposite Forces only the two aspects of the Universal Unit, called *Manifesting Mind* ; in which aspects, Occultism, through its great Seers, perceive an innumerable Host of operative Beings : cosmic Dhyan Chohans, Entities, whose essence, in its *dual* nature, is the

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Cause of all terrestrial phenomena. For that essence is consubstantial with the universal Electric Ocean, which is Life ; and being dual, as said – positive and negative – it is the emanations of that duality that act now on Earth under the name of ' modes of motion ' ; even Force having now become objectionable as a word, for fear it should lead someone, even in thought, to separate it from Matter ! It is, as Occultism says, the dual *effects* of that dual essence which have now been called centripetal and centrifugal forces, now negative and positive poles, or polarity, heat and cold, light and darkness, etc." (S.D., vol. I. p. 661. Oe.) (S.D., vol. I. p. 604, Ne.)

These two aspects of the One Force, therefore, constitute the dualism which is everywhere apparent in the phenomenal universe. They must always be equal and opposite. We can apparently separate either one of them in some particular phenomenon, but that very phenomenon is only possible because of the operation of the other at some other point, and we must extend this principle to all operations in the Cosmos. The one force cannot be produced without the other, though in some phenomena the other is wholly *in abscondito*, so far as our physical senses are concerned.

It is for this reason that Occult Science rejects the orthodox scientific conception of Gravitation, as being an isolated force of attraction merely.

" Attraction by itself is not sufficient to explain even planetary motion ; how

can it then presume to explain the rotary motion in the infinitudes of Space ! Attraction alone will never fill the gaps unless a special impulse is admitted for every sidereal body, and the rotation of every planet with its satellites is shown to be due to some one cause combined with attraction. And even then, says an Astronomer, Science would have to name that cause." (S.D., vol. I. p. 577. Oe.) (S.D., vol. I. p. 529, Ne.)

In the microcosm of the atom and molecule, the attractive force is manifested in cohesion and chemical affinity. But at the same time these forces are balanced at a certain point by the equal and opposite one of repulsion, which puts a limit to the distance within which each atom, or sub-atom, or molecule can approach another. None of them actually touch ; their relative positions are governed

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by a law which says "thus far shalt thou go and no further."

So also is it in the macrocosm of the Solar System and Stellar Universe. Attraction alone cannot account either for the formation or continuance of the Solar System. That the Sun does exercise a repulsive force upon some kinds of matter is now well recognized in the phenomenon of the repulsion of the tail of a Comet.

In any stable system, either such as that of a molecule of matter or of a Solar System, there must be a balance of attraction and repulsion. If that balance is to be disturbed, force, either of attraction or repulsion, must be used.

But this force is at root only a readjustment of relative motion ; it is motion accelerated or retarded at one place, or in one body, or on one plane, at the expense of motion retarded or accelerated in another place, or body, or plane.

What, in fact, is the inertia of matter : that quality or property in virtue of which it requires *force* to set a body in motion, or to accelerate or retard it when it is already moving ? Why should a body freely suspended in space or in a vacuum require force to move it : a force proportionate to the mass of the body ?

The answer is, that there is no such thing as a body *freely* suspended in space. Every atom of matter is linked by invisible bands, stronger than the strongest steel, to the substance of the Ether, and every molecule of Ether is likewise linked to the substance of a higher Plane, and so to the highest, to the Plane of the One space-filling Force-Substance itself.

Inertia is not the result of the passivity, inertness, deadness, or isolation of matter ; on the contrary, it is the result of its intense life and activity, its intrinsic nature as *Substance* ; altogether masked and veiled, it is true, to our physical perceptions, yet as certainly existent, and as apprehensible as a fact as is our own life and consciousness.

We might note here — as given in *The Secret Doctrine* —

We have referred in Chapter I. to the physical fact that an electrically charged body moving with a certain velocity has an additional apparent mass or inertia in consequence of its charge. We have noted that this increased inertia is a function of the velocity ; that it increases rapidly as we approach the velocity of light ; and, further, that a mathematical analysis shows that at the actual velocity of light itself it would be infinite. This increase has actually been observed in the case of corpuscles moving with a velocity of about two-thirds that of light. Why is this ? According to physical science it is because of the field of electro-magnetic induction which exists round the charged body or the corpuscle: a field which – as Sir Oliver Lodge says extends infinitely into space, and gives to the atom a practically infinite though infinitesimal extension. Now let us see what *The Secret Doctrine* says.

“ Inertia, so called, is Force, according to Newton (Princ, Dei. III.), and for the student of Esoteric Sciences the greatest of the Occult Forces. A body can only conceptually, only on this plane of illusion, be considered divorced from its relations with other bodies – which, according to the physical and mechanical sciences, give rise to its attributes. In fact, it can never be so detached ; death itself being unable to detach it from its relation with the Universal Forces, of which the One Force, or Life, is the synthesis ; the interrelation simply continues on another plane.” (S.D., vol. I. p. 557. Oe.) (S.D., vol. I. p. 511, Ne.)

What, then, is this inertia in its ultimate metaphysical analysis ? We cannot do more than put the following quotation, pregnant with suggestion, before our readers, and refer them to the context.

“ Satan [or Lucifer] represents the *Active*, or, as M. Jules Baissac calls it, the ' Centrifugal ' Energy of the Universe [in a cosmic sense]. . . . And fitly is he again and again baffled by the Eternal Inertia of the Passive Energy of the Kosmos – the inexorable *I am* – the flint from which the sparks are beaten out.” (S.D.), vol. II. p. 255. Oe.) (S.D.), vol. II. p. 245, Ne.)

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Consider now that the Universe as a whole is one complete balanced system of perpetual Motion. We cannot destroy motion anywhere ; it is perpetual and eternal in its *equivalent* in the action and interaction between all the Planes.

It results from this, that whether a body is at rest (so called) or whether it is moving with a uniform velocity, there is an equilibrium between its molecules and atoms and those of the etheric and other Planes. If, however, we seek to accelerate or retard its motion, we destroy the equilibrium in this sense, that the motion we impart or withdraw from the body must be withdrawn or imparted at the expense of motion somewhere else; while it is nothing more than the consciousness or *sensation* of this change or transfer which gives us the idea of

force, and therefore of mass or inertia.

The Universe is a Unity; it is one complete balanced system, in which no slightest alteration can be made anywhere without a readjustment *everywhere*. No single minutest particle of matter can be moved, can be accelerated or retarded, but it necessitates a corresponding adjustment *on all the Planes of the Cosmos*.

Physical Science tells us that we cannot jump off the Earth without pushing it back a little, for action and reaction must be equal and opposite. A body falling to the Earth is not merely attracted by the Earth, but also attracts the Earth, and the Earth moves towards it in a proportional degree.

Occult Science tells us that every thought we think, sending out vibrations or "telepathic" impulses, is registered on the walls and objects around us, actually affecting their physical condition, as well as the minds and brains of our fellow creatures.

Every atom and molecule vibrates with its whole past and it is *easier* for it to respond to similar vibrations than to new ones, therefore it takes the path of least resistance.

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So also is it easier for us to do what we have accustomed the atoms and molecules of our body or bodies to do, or what they have been accustomed to do by heredity which is nothing but previous experience – and this not merely with our physical atoms, but also with our astral, and pranic, and manasic atoms, which latter constitute our mental activities or *mind*. Even as our physical body, to be responsive and vigorous to its physical environment, must be vibrate or be tuned in harmony and responsiveness therewith, so also our manasic body, or mind, must be tuned and responsive to the vibrations of the Universal Mind, the activities of the great Central Sun.

To raise our vibrations or tune our mind in response to *all* that is contained in that Universal Mind, in other words, to become *cosmic* in our consciousness, is the legitimate and natural goal of our evolution; attainable, according to the Occult teachings, in the definite cycle known as the Fifth Round.

And if we now ask how, in such a Universe of balanced motion as we have just described, the balance can in any way be altered, or disturbed, or readjusted, so as to produce an endless and infinite variety of phenomena, what answer can we give other than that which we find within ourselves, in our own nature and activity ?

Explain wholly and completely, down to its very root and ground, *how you* can disturb the balance, *how you* can stretch forth your hand, or frame a thought into speech and action ; then only, and only thereby, will you have explained *how* the atoms and molecules are brought to birth, or *how* the Sun and Stars are formed and swung in their mighty courses.

When we stretch forth our hand, what explanation can we give of that act other than that we *willed* that it should be so : which act of will is also an act

guided by *intelligence*.

And how could *we* as a mere conglomeration of atoms,

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have either will or intelligence, did not these exist as the inherent, inalienable attributes of that one *Substance-Principle* out of which all our bodies, on all the Planes, are built, and which is the Universe ?

Or perchance we are more than our atoms, more than our bodies. Perchance we, in our wholeness and completeness, are the one SUBSTANCE-PRINCIPLE itself.