

WARDER

GEORGE

WOODWARD

THE UNIVERSE A VAST
ELECTRIC ORGANISM

George Warder

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Electric Organism**

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George Woodward Warder

The Universe a Vast Electric Organism

The universe is a vast electric machine or organism creating its own cosmic force, lighting and heating itself from its own latent electric fires, and bound together by invisible electric bands pulling and guiding with the swiftness of lightning, and the power and wisdom of Omnipotence.—From "The Cities of the Sun."

PREFACE

This volume is intended to further elucidate my theories of electrical creation, to cover some points lightly touched upon in my previous books; also to bring forward to date the most recent scientific facts and discoveries tending to show that the universe is a vast electric machine or organism.

This is the electrical age of the world, the age of magnetic marvels and electrical wonders. The people of this generation have witnessed the most astounding development of electrical machinery, appliances and utilities. In every department of effort human genius has called forth this invisible, mysterious magician, electricity, to work the miracles of Omnipotence.

And so rapid and marvelous have been the discoveries that the human mind stands paralyzed with wonder and amazement and asks, What next? In discovering electricity man has discovered the working force of Deity, the right hand of Omnipotence, the word of creative power, and uses it in all fields of human effort. With electric cables, electric motors, telephones, phonographs, telectroscopes, wireless telegraphy and mental telepathy, the world is revolutionized, "the old heavens and the old earth have passed away, and behold! all things are new."

The new heavens and the new earth as I see it through scientific facts and analogies is a perfect electrical machine, a vast electro-magnetic organism of marvelous power and perfection. This "stupendous mass of matter and force" we call the universe is a complete whole, a perfect unity, creating its own light, heat and life and bound together by invisible electric ties of measureless power, as swift as lightning and as strong as Omnipotence.

Then I took up the study of electricity as a matter of curiosity and mental stimulus for my leisure hours from the law practice and realty investments. I had an indefinite idea that this mysterious force and the laws governing it might help to solve the riddle of the universe. I studied its application to ordinary machinery and then applied it to the universe as a vast machine. And behold! the universe as a mighty electric machine or organism answered every scientific question and solved every puzzle in the material world as far as I could comprehend them.

I applied it to suns and planets, man and all animal and vegetable organisms, and as electric creations and electric generators they explained a thousand mysteries. I found man the most perfect electric organism, woven by electric energy from invisible atoms, receiving his physical life, growth and nutrition, and digesting and assimilating his food by an electric process, such as Prof. Loeb and Dr. Matthews discovered in 1902, nearly twenty years after. I soon formulated a theory of electrical creation, which has recently been accepted by some of the ablest scientists.

These things I discussed openly and on the platform for many years and then I published them in my book, *The New Cosmogony*, in 1898, in *Invisible Light* in 1900 and in *The Cities of the Sun* in 1901.

My attention was first called to this subject about twenty years ago when Prof. Henry built the first electric street railway ever built in this country. It was built on East Fifth Street, in Kansas City, Missouri, the city where I was living, and attracted much attention. It was used for only a short time because the machinery was not sufficiently perfected, and there was too great a waste of power, and the insulation was bad, for it magnetized and stopped the watches in the pockets of the passengers. While pondering over this electric railway and its mysterious force, as I sat in the twilight in the parlor of the old Coates House, a servant came in to light the gas. Instead of using a match, he turned on the gas, took a few gliding steps over the carpet and lit the gas by a flash of electricity from his finger, produced by touching his finger against the tip of the gas jet. I was surprised and said, "Have you enough fire in your body to light the gas?" He answered, "Yes, sir." I said, "Can you do that again?" "Yes, sir," and he turned on another jet took a few gliding steps over the carpet, touched the tip of the jet with his finger; there was a flash and the gas was lit.

I was amazed, for this was a new electric manifestation to me. He said, "You can do it, sir." "Well, I'll see if I can," and I took a few gliding steps over the carpet. He turned on the gas, I touched the jet with the tip of my finger and a flash of electric fire, an inch long, lit the gas. This I did many times afterwards and saw a dozen others do the same thing. In fact the servants seldom used matches in that parlor, the carpet held such a surplus of electricity most any person could by a few gliding steps increase the electricity of their body so they could light the gas by a touch.

Then I began to think—electric fire in man's body, in the clouds, in coal and wood, on the telegraph line, in flint, in cold steel—in everything. Electricity must be light, heat, life and creative force, and will explain the mysteries of nature.

In the hot, dry summer of 1901, when *The Cities of the Sun*¹ was issued, my publisher called me to one side and said that his salesman was going out West. He asked, "If he offers to sell your book, which says the sun is not hot, to those old Kansas farmers, won't they mob him and hang him to the first available tree?" I admitted it did look serious on account of the extreme heat then afflicting the West, but told him to have his salesman inform them that if they would go up in a balloon a few thousand feet nearer the sun they would freeze to death, and that if they had an arm that would reach four thousand feet up into the atmosphere it would freeze to the elbow in less than thirty minutes, the hottest day ever known, as every two thousand feet upwards from the earth there is a loss of over one hundred degrees of heat. I mention this to show how some of these theories may shock the sensibilities of some unscientific thinkers.

All scientists declare that the sun is a burning globe and also the material and electric center of the solar system; but I conceived it to be a living world like our earth, only more prolific in life and power, and the intellectual and spiritual center of our system of worlds. I believe I present the only reasonable scientific hypothesis ever presented in the history of the human race which shows and explains the unity, oneness and perfect organism of the universe. It shows that the universe is self-sustaining, harmonious and eternal, creating its own cosmic light, heat and life in the magnetic atmosphere of its suns and planets, and so simple that the law of atoms is the law of suns and worlds.

With the able assistance of the many scientists, electricians and specialists who have recently accepted and championed these theories, and the progress already made, they bid fair to soon revolutionize scientific thought.

The time will come, and is not far distant, when those who believe the sun is hot, or a burning globe of fire, will be regarded as the devotees of an antiquated superstition. The enlightened world will look upon them as they do now on those who believe in witches, human slavery and that the earth is flat; and will pity their ignorance, as we do those who worshipped the gods of Olympus.

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PART FIRST

CHAPTER I

THE UNIVERSE IS A VAST ELECTRIC ORGANISM

Electricity, next to Deity, is the most remarkable entity in the universe. Its marvelous and varied powers and utilities create a new epoch in scientific thought and discovery. Its study is replete with new and fascinating ideas and scientific theories. It contains the story of the universe more sublime than an epic, more wonderful than a romance. It organized the machinery of the worlds, and holds the secrets of nature and the mysteries of life in its invisible grasp.

Electricity is the right hand of Deity, the tongue of the Spirit, the Word of Omnipotent power, the protean cosmic force and creative machinery of the universe. At the divine fiat it seized all atoms and space, it shook the ether into nebula, the nebula into worlds, the worlds into constellations, the constellations into a universe. It shaped planets and rounded suns and hurled them forth to circle in the chorus of the singing spheres. It gave form and functions to all matter from the rounded pebble to the stars; from the raindrop to the surging seas; from the chirping cricket to the sporting leviathan; from the helpless infant to the giant man.

It is the messenger and executive of Creative Will to all created things. It is the ambassador of spirit to matter, the autocrat of communication between all the faculties of mind and all the functions of physical existence. It is the law of affinity in matter, of selection in atoms, and whispers to the body the intuitions of the Spirit and guides insensate worlds to do the will of Creative Omnipotence.

Electricity is the wonderful medium and agent by which mind acts upon matter and works the miracle of life and growth. This mightiest servant of God and man, this genii greater than Aladdin's lamp, impresses all laws upon nature, and makes the universe obedient to the will of Deity, as man's body is obedient to the dictates of man's mind. This inscrutable word of power from the source of all power is beginning to supply the human race with an inexhaustible force that will revolutionize the earth and link all nations together as one family in a millennium of peace and good will.

Human life seems to throb, pulsate, gleam and glow in this marvelous current of existence, which causes illumination, transportation, telegraphy, photography, surgery, horticulture, agriculture, metallurgy and manufacture to step forth as master magicians to work miracles for the comfort and happiness of mankind. Every new discovery, every step in the progress of electrical science conquers time, destroys distances, diffuses knowledge, dissipates ignorance, encourages friendship and draws men and nations closer and closer by physical ties and spiritual affinities. Where once noisy ponderous mechanism pounded the rocks to release the metals, electrical science with her unseen but resistless currents instantly separate the ore and the dross. Where the soot-begrimed engineer seizes the heavy iron throttle, she cleanly and softly touches a tiny button and the miracle is wrought—the heavy steed of steel receives its life not from smoking, hissing, fussing steam, but from an energy as silent as light and as potent as Omnipotence.

This invisible electrical energy, without brush or color, paints the gorgeous beauties of the rainbow, and photographs in every ray of light and on every human eye the moving panorama of every passing scene. It telegraphs between mind and matter, between soul and body, between suns and planets, and gives life and energy to all the varied functions of this electric magnetic universe. This strange, miraculous power has taken its place as the supreme force of all forces, the ultimate elemental force from which all other physical forces are derived, and, without fuel or expense, flies with its burdens swifter than the flight of eagles.

It is the last and greatest progeny of man genius and discovery, the seventh daughter of science, who dips her wand in the impossible and miraculous until miracles become prolific and common. Its power and expression are universal and its character and process superlatively grand. Its theatre of action is the universe and it comes to earth as the voice of Deity and the word of His Omnipotence.

This science of the impossible, this daughter of miracles, is destined to outstrip all past achievements. The ponderous and noisy mechanisms will pass away, the barren rocks will change into most precious things, the sunlight will be converted into reservoirs of power, and every raindrop and waterfall, ocean tide and wind current, will reveal exhaustless sources of wealth and energy. Then will the ancient curse, "by the sweat of thy brow shalt thou eat bread," be removed, and agriculture and commerce will be conducted without the drudgery of toil or the weariness of labor, and the earth shall blossom at the touch of the silent electric forces which man will harness to his car of progress and power. Manufacture will then be automatic and the web she will weave in her silent loom will not be wet with the tears of imprisoned childhood, or the agonizing sweat of dungeoned manhood.

Omnipotence follows her footsteps and with the blessings of heaven she comes as a friend to relieve pain and toil and elevate and glorify humanity. Her power is as boundless as space and as universal as heaven's love.

For she comes with the Omnipotent power of Deity to relieve the burdens of toil, lift up the oppressed of the earth, and give man leisure for mental improvement and social elevation.

Electricity, I contend, is the invisible force which evolves form and substance and all visible things. Matter is but the outer garment of these invisible electric forces. It is Spirit which creates psychic life, and makes life the cause instead of the consequence of organism. It is electricity which evolved the physical universe and makes it a vast electric organism bound together by invisible electric ties, where its invisible forces are the cause instead of the consequence of physical organism. These are the basic differences between the materialistic science of the past and the psycho-electric science of the present. In the past science investigated only visible material effects and ignored the supreme invisible forces and laws which evolved and produced them.

This is an age of dominant mind, the development of a cycle of invisible forces. The past century was the age of matter. It is said Darwin, Tyndall, Haeckel and Huxley did a work which had to be done. But their work was limited to chemical and biological demonstration. It was science, but science of the old school. The discoveries since made in the domain of electricity and mental transmission make their discoveries seem trivial in comparison.

Francis Grierson says: "The discoveries and inventions of the past ten years have made child's play of every previously known system of philosophy. The simple but amazing facts disclosed during the past five years render the dreams, speculations and guesswork of the past absurd. The little we know in a practical way is more than all the philosophers of the past knew, from Aristotle to Leibnitz."

I contend that the universe is a vast electric organism. That all light, heat, and vital force is generated by electric energy in the dense magnetic atmosphere of suns and planets, where alone it is needed for animal and vegetable life, and in volcanic pockets or circuits in the outer crust of these bodies caused by electric repulsion. That the universe began in extreme cold, not heat, that the suns are not hot, but are self-luminous, perfected worlds, and like our earth, except greater and more prolific in life and power. I also contend it is as reasonable to bury an iron ship in the icebergs of the Arctic seas and expect it to become "red hot," as to expect the sun, planets or any body traveling through space 460 degrees colder than those icebergs to become "hot, red hot or molten," as the astronomers say the sun is. All light, heat, vital force and physical life is created by contact of opposite electrical polarities in the magnetic cushion surrounding all suns and planets.

The sun furnishes the positive electricity and the planet or satellite the negative, and from these two spring all the cosmic and material forces of the universe. The electric currents of the sun create induced magnetic currents on the earth, which evolves all visible substance and life forms.

The earth at its center is a magnet of crystalline rock and varied metals, placed layer upon layer as a thermopile or voltaic battery, which constitutes the solid core of the earth magnet, and draws and holds all matter and substance atoms and atmosphere close to its magnetic heart, so that nothing can be thrown off of its vast surface, though it shoots through space fifty times faster than a bullet from a rifle and whirls round with the speed of a revolving cylinder of a dynamo. Its swift duplicate motion makes it a working battery or arc dynamo of marvelous power. It draws all things to its magnetic center as the magnetic core of a steel magnet draws filings of iron and other metals to its magnetic surface, and they cluster there in the same spherical form.

This earth magnet drew countless meteors, swarms of nebulae and invisible matter from surrounding space, and grew in size and magnetic power as a steel magnet may grow by adding other countless magnets with their increasing power and growing accretions. For my theory is that every atom is a tiny magnet, and every molecule, meteor and visible form of matter is a combination and aggregation of magnets.

Aside from the theory of magnets, this is not far from Lockyer and Proctor's theory of the stellar formation. Norman Lockyer says: "The stellar constitution may be explained by supposing it to arise from cool meteoric swarms represented by the nebulae and the rise of temperature due to contraction toward a centre." And he adds: "In the stars we have celestial furnaces the heat of which transcends that of our most powerful electric sparks." In this heat theory I think he is radically wrong. The rise of temperature on the sun and earth, I contend, is not from contraction, which is both insufficient and too irregular to be considered. But it did arise from the growth in power and size of the earth as a great magnet, so that as a great arc dynamo it began to throb with electric energy, and, by drawing to itself powerful currents from space and from the sun, the central electric heart of its organism, it began to generate heat and light in its own environment, which in time became translucent to the sun's rays, and, instead of the sun and earth losing their light and heating power, they are steadily increasing them.

It is thus apparent that all light, heat, physical organisms and vegetable and animal life are evolved and exist only in the magnetic atmosphere of suns and planets.

The light we see does not come from the sun or stars; it is generated in our own atmosphere. No man ever saw the sun or stars; they see the rays of light which photograph them in our atmosphere. They see pictures of them at the end of the ray emanating from them, but some of these rays have been two hundred years in reaching us.

It takes light over four years to reach us from the star nearest our earth, so it is plain we do not see these stars.

As to the heat of the sun, there has been a vast difference of opinion among scientists. Newton held it to be 1,669,300 degrees hot; Erickson, 2,726,000 degrees hot; Sacchi, 2,000,000 to 6,000,000 degrees; Waterson, 9,000,000 to 10,000,000, and Soret, 5,800,000 degrees hot. But since the discovery of the law of the conservation of energy, which is only about a hundred years old, the scientists have been hedging and crawfishing with wonderful dexterity and reducing it, until now 18,000 to 20,000 degrees are accepted as possibly correct.

As Newton was a great mathematician and the scientists accept him on other scientific questions, they ought to accept him on the sun's heat, and acknowledge a fact that ought to be apparent to all—that if heat comes to the earth from the sun, in a column 93,000,000 miles long and 8,000 miles in diameter through frigid ether 460 degrees colder than ice, the sun must be millions of degrees hot. Then, as nothing in the known universe can exist a million or even twenty thousand degrees hot, they should admit the sun is not hot, and no heat comes from the sun to the earth. Only electric currents come from the sun, which generate heat and light in our own atmosphere.

Then arises another question. All bodies lose their magnetic power when heated to less than one thousand degrees hot. Professor Fleming in his book, "Magnets and Electric Currents" says: "Magnetic bodies become changed into feeble magnetic ones by heating to a certain temperature.

Iron at its critical temperature, 690 degrees to 870 degrees or a light red heat, loses all its strong magnetic qualities. In the same way nickel loses them at 300 degrees." Thus we have the sun at even 1,000 degrees hot deprived of its magnetic power and unable to control the solar system. Prof. T. C. Mendenhal, in a recent article in Harper's Magazine, says: "The electrical resistance of pure metals diminishes at a rate which indicates that at absolute zero it would vanish and these metals would become perfect conductors of electricity." Thus cold increases and heat diminishes the electric energy of metals and all substances.

In my previous book, *The Cities of the Sun*, I have given over fifty reasons why the sun is not hot. Among them I may mention, first, because of the extreme cold that prevails in the upper atmosphere of the earth, through which the sun's rays must pass, but whose temperature they cannot alter. Second, because the sun's rays must traverse 93,000,000 miles of space between sun and earth, which is 460 degrees colder than ice, which would make it impossible *for them to retain any degree of heat whatever*. If heat comes from the sun it must come in a column 93,000,000 miles long, 865,000 miles in diameter, converging to 8,000 miles at the earth's surface, which would destroy the sun or any known body in the universe to furnish such heat. Third, because the perpetual snow upon the mountains even in the tropics show the sun's rays bring no heat to the earth, or the snow would be melted by the first and greatest volume of heat from the sun. Fourth, because if heat came from the sun there could be no clouds in our atmosphere, for the heat of the sun would strike them first, and greater heat above the cloud level would prevent their formation and forever banish them from our skies.

Fifth, because heat by the law of its nature is diffusive, and cannot be shot from one sun or planet to another, or forced through space like a leaden ball or other substance, but is soon dissipated in the cold ether of space. Sixth, the sun is not hot because comets have passed three hundred thousand miles through the sun's corona without visible change or injury, which would be impossible if the sun is excessively hot, for the comet, coming from outer space, must be intensely cold, and excessive heat in the sun would explode and destroy it. This argument alone should destroy the hoary headed superstition that the sun is hot. Seventh, heat does not come from the sun, because there is no such thing as heat. Heat is simply a sensation; it is not a substance or an entity. It is a sensation caused by the increased activity of the molecules of which a body is composed, and, is produced by electric currents. I hold the sun is not a thermal or heating engine, as the astronomers claim, but an electric generator which is not hot and does not need to be hot. I repudiate the law of gravity and adopt electricity as the evolving force of the universe.

As the sun is 745 times larger than all the planets of the solar system combined, and controls the life and energy of the solar system by all laws of analogy and distribution in the universe, it should be more highly endowed with all the elements of growth, living forms and intellectual organisms than all the planets combined. Therefore, the sun should be the spiritual and intellectual center as well as the physical and electric center of our system of worlds, the headquarters of Deity and the future abode of man. No life could come from a hot or burning sun or world, yet all animal and vegetable life comes from the all life-giving energy of the sun. Heat is not life-giving, it is not even a substance or a force. Heat does not exist except as a sensation created by the increased activity of the molecules of which the body is composed. This increased activity is caused by currents or waves of electricity passing through a body or substance. Cold is the absence of heat or lack of motion of the molecules of a body or substance, and, like heat, is not a reality, a substance or a thing, but only a sensation.

Heat and cold are produced by electricity, and are sensations resulting from electrical conditions. Heat is not a creator; electricity is the creator and heat is its servant, and only one of its thousand-fold expressions. Electricity creates the activity of the molecules which gives the sensation of heat. A person standing in the sun on a hot day receives currents of electricity which were not hot when they left the sun, but only became so when they came in contact with the earth's opposite electricity near the earth's surface. These currents produce the sensation of heat. The sun is not a

burning globe, or blazing world of fire; it is an enormous magnet of measureless power, thirteen hundred thousand times larger than the earth magnet on which we live. It revolves on its enormous axis at the rate of four thousand miles an hour and is thus constituted a working magnet or arc dynamo, drawing electric energy from its vast electric field, embracing the solar system, six billions of miles in diameter. Of this electricity, it uses for its own light, heat, and vital force what it needs, and the balance is thrown off to its luminous corona or photosphere, where it is shot by the law of electric repulsion in the sun and electric attraction in the planets to the earth and plants. The brilliancy of the sun is caused by its surplus electricity creating a luminous aurora which extends from its poles to its equator.

Newton discovered an imaginary force. Newton had an imagination which the scientific plodders who came after him lacked. They have dug in the dirt, while he sailed through azure seas and linked suns and worlds together by the mere sweep of the imagination, without any explanation or conceivable cause, and called it gravity. He might just as well have called it weight or ponderosity, which means the same as gravity. And the scientists followed him and accepted his theory of gravity, which means nothing and explains nothing. It was the best they could do, as he had an imagination and an idea and they had none. Thus the blind led the blind for two centuries, until electricity and its invisible forces were discovered, and a new field for thought and causation was opened up.

Let us suppose that space and the invisible atoms or star dust which permeate it are seized by electric energy, creating a boundless sea of invisible electro-magnetism, which began to vibrate to the law of action and reaction, attraction and repulsion. Under this law every atom became a tiny magnet, and electric centers are formed which are the foundation stones and nuclei of growing suns and worlds; and invisible atoms, nebulae and finally meteors are drawn by electric energy and woven by magnetic force or induced electric currents into orderly layers of crystalline rock and varied metals, forming a vast thermopile, galvanic battery, working magnet, and electric dynamo all combined. By the law of electric attraction all matter would tend toward a common center, and in that common center would be found the vast central magnet-sun, sphere and dynamo many times larger and more powerful than all the others combined. As each grew in size their electric potentiality would be increased, their electric and magnetic attractions multiplied, and their revolution upon their axis and their orbit motion would be accelerated to a marvelous extent, giving them measureless force and power.

Herbert Spencer affirms that space is eternal and has always existed. We will suppose the same of matter in its elemental form, known as the atom, and we will venture also to assert that force is a substance like matter, but a thousand times more refined and invisible than the atom, and we will call it the electric ion, or electron.

Thus we have three indestructible, invisible entities—space, matter and force—which have existed eternally and which constitute the basic foundation and fallow ground of primeval chaos, which was the beginning of the universe. Then stars and planets, suns and worlds were transparent ether, as impalpable as the viewless air, and scattered as star-dust in the measureless void of space along the forgotten highways of the eternities. Silence reigned profound in the pulseless regions of the air where, motionless and dumb, the atoms hung in dark and lifeless space. There was nothing in all that seemingly chaotic universe; nothing but cold, darkness and silence. But these are the home of atoms and ions, the star dust and cosmic force, creative Deity had scattered by the breath of His power through the highways of space in the beginning of primeval creation. While these seem as nothing to man, they are the foundation stones of all creation.

This nothingness of space was the fallow ground of the universe and the formless shadow of suns and worlds. It was a universe in solution, as viewless as ether and as intangible as mind. The electric energy of space was yet unstirred by the divine fiat or shook into vibrating force by the word of creative power.

Then at the creative behest, "Let There Be Light," the ions of force, like an electric clothing of light and life, leaped into power, permeated all atoms, and wrapped as in swaddling clothes a new-

born universe. Then atoms and ions of electric force met in fond and unending embrace, substance and energy clasped hands, and matter and persistent force were woven into each other's arms and saturated with electric life-giving energy.

The sun magnet, being larger and more powerful than all the others combined, would hold the others we call planets in the magnetic field of his sovereign power, and become the electric heart and commanding force of his system of world magnets. He would draw his electric life and energy from his vast electric magnetic field embracing his solar system, which with our sun is six billions of miles in diameter.

As these bodies grew in size under the law of electric attraction, which draws all matter toward a common center, they would become more and more compressed, dense and stable, until they attained their natural equilibrium of balanced forces and assumed their permanent form and solidity. Then they would assume their normal velocity of revolution on their axis, and their orbital motion along evenly balanced lines of force, without friction or change, for countless ages. All suns and planets revolve on their axis under the law of electro-magnetism by which electric currents of force pass through their centers at their poles, and magnetic currents of equal force pass one way around them, creating their diurnal motion.

This law is briefly stated by a standard work on electricity: "A wire or any conductor having a current of electricity passing through it has lines of magnetic force passing one way around it, and the number is in direct ratio to the quantity of current passing through the wire. This magnetic effect is strongest close to the wire, and decreases inversely as the square of the distance." This is a marvelous combination of the dual forces of electricity, which operates as a wonderful mechanical contrivance to spin the heavenly orbs on their poles, like a top is spun by a string or band around it or like the cylinder of a dynamo is revolved by its leather bands or a water wheel turned by the swift current of a river. By reason of this law, all suns and planets revolve on their electric centers at their poles. The great electric currents from the sun eight thousand miles in diameter and ninety-three million miles in length, like a mighty, inexhaustible river of force and power, cause the earth to turn over, as a water-wheel is turned by the swift current of a river. This vast stream or current of invisible power, when it starts from the photosphere of the sun, is 865,000 miles in diameter and is narrowed to a focus of 8,000 miles at the earth's surface, thus increasing its force and power a thousand-fold. The largest river on the earth is 180 miles wide at its mouth and about 3,000 miles long, but what an insignificant rivulet it is in contrast with this vast, invisible, omnipotent stream of electric life-giving power, constantly passing to and fro from sun to earth and from earth to sun.

Think of its marvelous speed! While the swiftest current of a river or the speed of a railroad train is scarcely fifty miles an hour, this mighty electric tide comes with the speed of light 186,000 miles a second, or almost 12,000,000 of miles an hour; and it turns the earth over at the rate of a thousand miles an hour by its lines of magnetic force, just as the swift tide of a river turns the water-wheel of a mill. And that the earth may turn more surely and steadily, it has vast mountain ranges running north and south from its poles, such as the Andes and the Himalayas on opposite sides of its surface, and other ranges scattered between, to act as extending flanges and paddles, like those on a water-wheel, to enable this vast electric tide to turn it more readily, and, like the brushes on an electric dynamo, to generate and draw electric currents from earth and sky, and moisture from the clouds, to bless and fertilize the earth and make it the theatre of man's life and activities.

Beneath these mountain ranges and in the outer crust of its surface are many cavities or openings we call volcanoes connected by powerful currents of magnetism constantly circulating from the equator to the poles; and when there is an influx of water or other substance sufficient to generate electric resistance and repulsion, a fuse burns out in the circuit at that point, the volcano sparks, blazes, explodes with great force, and shoots its molten lava into the clouds, or, like Mount Pelee, blows its head off.

Another simple illustration of the universe as a vast electric mechanism is the electric street-car system in our cities. The sun represents the great central power house where the electric power is generated.

The planets represent the cars, which revolve on their axis and speed forward by the same force and in almost the same manner as the planets revolve on their poles and continue in their orbital lines of force. The trolley wire and current are the cars' electric line of force and they come and go in their circuit propelled by the electric generator at the central power house, in very much the same way as the planets revolve and come and go on their orbital circuits around the sun by the moving force and electric power of the sun.

The circuit of the electric current on the car line starts from the dynamo at the power house and returns along the rails or through the earth back to the dynamo. In like manner, the vast electric currents of the sun pass to the earth through the ether without wires and do the lighting, heating and cosmic life-work, and return to the sun completing their circuit; and the earth sends its electric currents to the sun and they return to the earth through the ether in the same manner and complete their circuit. Thus there are vast highways and boulevards of electric currents passing from suns to planets and from planets to suns which are pathways to the stars and the great highways of eternity, on which invisible atoms, and perhaps invisible human souls, may pass from earth to suns and central suns. In the future, man will turn the searchlight of investigation upon electricity as the universal operating cause of all physical phenomena. He will solve the riddle of the universe by its subtle invisible forces. He will cease to regard creation as vast constellations of burning spheres whirling through frigid ether. He will look upon it with wonder and inspiration as a vast self-controlling, life-evolving, varied but unchanging unity, a perfect whole—a vast electric organism of omnipotent power and eternal existence. He will regard electricity as the finger touch of Deity that makes the world go round, that marks out the orbits of suns and the pathway of constellations, and guides them in their mysterious courses to their eternal and inscrutable destiny.

CHAPTER II

ELECTRICITY PRODUCES ALL THE PHENOMENA OF NATURE

I contend that electricity produces all the phenomena of nature—that it is the ever active agent in evolving visible forms and substances whose results are known as laws. Man is the most perfect enfoldment of nature's electric laws, and the world and the universe are the universal expression of electric life and energy.

Man and all the visible forms of creation are woven from invisible ether by electric forces, and, as man's will and thoughts are the governing force of his electric organism, so simple and universal are the laws of nature that the will and thoughts of Deity, by electric energy, are the controlling law and force of the universe, and the ultimate cause producing all causes, all creations, and all tangible forms.

The natural world is the product of matter, and force and all matter is one matter represented by the invisible atom, and all physical force is one force, being the varied manifestations of electric energy. For the natural world is the spiritual unfoldment made manifest by electric power.

Therefore all the varied phenomena of nature, the revolution of the earth on its axis and in its orbit around the sun, the brilliant light and governing power of the sun, the circling stars, the blazing comet, the shooting meteor, the gorgeous rainbow, the luminous aurora, and the dazzling corona are all expressions of electric power. The lightning in the cloud, the reverberations of thunder, the ebb and flow of the tides, the wind currents in the air, the swaying of the forest, the variations of heat and cold, the falling of snow, the rain drop and the dew are all electric manifestations.

You cannot raise your arm, lift your foot, or move your body except by electric energy. You cannot see or hear or feel or taste or smell or exercise any of the functions of the body without bringing to your aid the electric force which permeates all forms and substance. Electricity creates the mystery of physical life and provides the food and sustenance necessary to its growth and development. Electricity works the miracle of digestion and assimilation and converts inert matter into blood and bone, tissue and muscle, and organizes man's body into an electric machine, and runs it as truly and perfectly by electric energy as the electric motor or generator is run by electricity. Man draws his electric life currents from the air into the lungs as a great electric reservoir, there it purifies and energizes the blood and sends it as an electric fluid and circulating magnetic current through every part of the body, causing the heart valves to pulsate with measureless force and the human machine to throb with intense life and power.

The heart throbs and pulse beats of man's body are but the rhythmic whirl and vibrations of the human electric machine. Man makes electrical machines of wood and glass and metal, but nature makes them of flesh and blood and of all matter and substance. Nature, the all-wise and mysterious necromancer, makes nothing but electric machines from the infinitesimal atom to the self-luminous perfected dynamos—the suns and stars. All things that exist are electric generators or electric creations of marvelous construction, power and utility; and all expressions of form and power, all visible objects, and all the varied phenomena of nature are produced by electric-magnetic energy.

Franklin and Faraday, Harvey, Morse and Edison, by their discoveries have taught us that as the potter and the clay must come together to form the rudest vessels, so creative electric force must touch every sensitive atom in organic being; and keep the wellsprings of life constantly flowing through all life forms. There is no unfolding of bud and blossom, tree and shrub, without the coming and going of electric life-giving sunlight and earth light. They pervade all bodies of matter, whether world spheres or seed germs, and hold communion with all atomic centers of sensation in all living organisms. Atoms seek their electric affinities, life-forces and life-forms touch each other by the grasp of magnetic attraction and repulsion, and these give personal sensations and vital forms of being.

Through the medium of electricity, material and mental forces meet together upon the plane of human consciousness. This is nature's method of communication between the material and mental within the human brain, which has been a puzzling and difficult problem of physical science. The language of the senses is a universal language that has its foundation in invisible forces.

There is a unity between the light and the eye that indicates their origin in the same lines of force that now give sight to the brain life. In the ear, there is evidence that the electric vibratory currents of force producing sound had a companionship with the electric life-germ in which the ear had its beginning. So all organs of sense possess unmistakable evidence of having proceeded out of those electric forces that are unseen and imponderable. The knowledge of these is the story of the Garden of Eden, incorporated into the life of every intellectual being. All the evidence of the senses comes from electric telegrams from without or within man's physical organism. Seeing and hearing are wireless telegrams from the ether without, and feeling, smelling, tasting, are wired telegrams running along the nerves of man's body and communicating with the brain—the seat of intelligence—and the reasoning soul.

Man must have a connecting link between his mind and body and the things about him; and, as that connecting link and medium in man is electricity, so plain and simple are the laws of nature that God has no other medium between him and all material creations. Electricity therefore is both the creative governing energy of Deity over the universe, and the governing energy of man over all material things. God controls the universe as man controls his body—by electricity.

Man has five senses: seeing, hearing, feeling, tasting, smelling. These are all communicated to the soul or spiritual body by electricity. Man feels by the electric flashes that come from every part of his body, that tingle on his nerves, and beat upon the brain, and touch the garments of the living soul. He sees through the medium of the electric etheric waves of light that come from the vibrations of the air around him. By these swift electric flashes the infinitesimal rays of electric light enter the retina of the eye and touch the quick vision of the soul. He hears by the atmospheric waves of electricity that beat upon his ear drums. He tastes and smells by the same electric process; and his five senses are but the inward communication of outer surrounding conditions and substances to his spiritual perception by means of electricity. Thus the Creative Deity hears and knows, and by the same forces directs and sustains all things.

Man as an electric engine is far more efficient than any known engine in which there is a consumption of fuel. In general the amount of work a man does bears a certain proportion to the fuel he puts into his boiler. Plants also constitute forms of electric engines to embalm the sun's rays and use the products rejected by men and animals.

By the radiant energy of the sun, plants are able to decompose carbonic acid. They form storage cells in which a current of electricity decomposes the liquid into oxygen and hydrogen and form materials which again give electricity, motion and heat. The sun enables the plant engine to work. It also enables the man engine and animal engine, and world engine to work by furnishing them all with the electric energy and working power of the universe, that they may do their part in the ever living forces of cosmic life. The cells of protoplasm are infinitesimal magnets or electrical machines, all vegetables are but larger magnets, all animals still larger, till we get to worlds and suns, the greatest of them all.

All the radiant garments of creation in their varied colors of light and beauty that now appear to human vision are woven from the same garments of immortality that wrap themselves around the initial centres of magnetic attraction.

As the worlds were created by invisible electric forces under the guidance of the Omnipotent creative spirit, so the same electric forces are still carrying forward the work of their unfinished structures, and perfecting the unity and completing the harmony of creation. What we now call gravity is electric attraction and accretion that was commenced at the beginning of nature's work of creation, and which continues to be the occult force that secures the growth of a blade of grass, the unfolding of

the tiniest seed with its inwrap life-germ and the development of a world, and which brings us face to face with the creative force that was the starting point of "the beginning" and will be the culminating center of all ultimate perfected creation. This electric life energy touches each growing seed center as at the beginning it touched each growing world center and reveals the power and wisdom of creation in every evolving form of life.

The same electric radiate lines that give the parental image in the mirror by an instantaneous flash of light, give also the parental image in the germ-life that evolves a new paternity. While we cannot trace the lines of electrical union that are mingled in this new life, we are justified in affirming that electric and radiant matter must have bridged the chasm between the old lives and the new, between parental duality and the dual forces of electricity that produced a new germinal individuality. And the new life cannot be possible without the separate unfolding of two distinct organisms meeting in generative embrace, imparting a new seed-life. All germ-life has its beginning where positive and negative magnetic currents blend into unity.

The germinal life and the food supply of plant and animal fix the boundaries of its being. There can be no evolution of plant life into animal life. It is not scientific or rational; vegetable, plant and tree have no independent existence separate from the soil of the earth except as latent in seed form.

As all material organisms take on their organic form around electric or magnetic centers drawing their atoms from electrical currents, so all life-germs take their growth from the magnetic centers of their growing forms. Here in the field of electric forces is to be found the generative forces of organic matter—the mysterious births from all parental life. And the constantly revolving circle of periodic changes of growth and decay, of life and death, of seed beginning and seed producing—like sunshine and shadow, light and darkness—are opposite points in the circle of electric force and physical life. The growing and dying life-forms intervene between these two points of rest and renewal, of attraction and repulsion, of positive organism and negative diffusion of matter.

They are the results of the great electric system of attracting and repelling currents of magnetism that are as fixed in their lines of force and order of work as the rocks at the foundations of the mountains. In fact, all that is strong and abiding in matter rests upon these currents of energy, and all of life is dependent upon the constancy and perpetually pulsating flow of the unseen electrical potencies of creation. Life is a universal unity, as light, heat, electricity and polarization, which evolve it, are unities. The order of ascending life organism is from the simple to the complex; from the lowest plane of rock formation the series is upward; from the lowest form of vegetable life it is up to the highest, and in the animal life upward till the crowning work is reached in the thinking animal we call man, who is more than a thinking animal.

To each ascending form there is an endowment of self-perpetuation by parentage and seed fruitage, which involve the electro-magnetic condition of germ life. Thus by electrical forces plants build within each other and form others by elementary atoms, with power of self-propagation, bridging the life-gulf between silent atom and living organism as if they were the material work of some spiritual builder.

Thus by electrical forces nature builds all human and animal life-forms and organisms. The primary atoms of matter have their home in the electro-magnetic forces and are evolved from them into the material organisms of creation. When the electro-magnetic origin of light, heat, physical life and so-called gravitation is fully accepted and their dynamic energy traced to its potential body, we have reached the strength of primary forces and the unending circle of electrical potencies.

This brings us to the border land of creative work, to the mysterious sea of all life-giving forces, and the universal basis of all existing creations.

Here spirit, matter, and electricity—the three great basic entities of creation—work together in full accord in evolving and fashioning all material growth and material structures. In natural growth protoplasm gives the material conditions of life without which there could be no food supplies.

They contain grouped elements of oxygen, nitrogen, hydrogen and carbon out of which living structures are reared. Life is dependent upon food supplies of matter, which supplies must be raised to radiant conditions by electric forces to secure its assimilation into living organic forms. Life, therefore, like light, seeks through magnetic action a radiant plane of matter where it can reveal its working presence. Upon such a plane all forms of life come to birth from a common parentage—from electric force and radiant matter, each form endowed with personality, and powers of reproduction that make them factors of life and growth upon the radiant plane of creative potencies.

Prof. G. F. Wright of Oberlin says in a recent article: "Evolution does not solve the mysteries of the universe. It simply pushes them one step further back. The mystery of the acorn is greater than the mystery of the oak, for it has compressed in it all the 'power and potency' of the oak. It is no explanation of a chick to say it is hatched from an egg. The wonder and the mystery is simply carried back to that infinitesimal point in the egg which conceals within itself the power of producing the feathered biped with all its marvelous instincts and adapted organism." I hold that the infinitesimal point in the egg and the acorn is its electric center of life-force, or magnetic core, which, under the law of organic affinity, develops by nutrition and respiration, which are electric processes, into the chick and the oak. He says: "So, of all the processes of nature, man's vision sees only the surface. We do not see causes but only effects. We plant a seed, and all that we see is that under certain conditions it springs up and produces the blade, then the ear, and last the full corn in the ear. No one knows how it comes about that two seeds which look alike under the same conditions produce different colored flowers and different qualities of fruit. The beginning of everything is a mystery. If one affirms that things have no beginning he but increases the mystery. The difficulty with all theories of evolution is to get a starting point. The time was when philosophers could speak of the universe as eternal. The geologists fifty years ago could do so, but the demonstration of the conservation of energy has put an end to any such easy-going speculation."

All this is well stated and very true, except that by treating all things as electro-magnets, drawing positive and negative atoms or ions from air, food and water, we see how by nutrition and accretion animal and vegetable organism may be evolved by the law of magnetic attraction and organic affinity. This is the only rational solution and is in accord with all the processes of nature and with the conservation of energy. Elsewhere I have endeavored to explain how, by the constant renewal of matter and electric energy in the sun and in space, the universe may be eternal and no waste or deterioration occur and, while always changing, is virtually changeless.

Newton in his theory of gravitation discovered one phase of electric energy, and his law of gravitation is in reality simply the law of electrical attraction. But he never knew the cause of it and never discovered the other and dual phase of electric energy—the law of electrical repulsion, he never even suspected it. For he held that the balancing force of gravitation of the other planets kept each planet from falling into the sun, which it otherwise would have done under the law of gravitation, which says large bodies attract smaller ones. This position was untenable, as I have shown in "The Cities of the Sun."

Newton thought that an apple was attracted to the earth because the earth was larger, and that any larger body would attract a smaller one. But I hold that size is not what controls attraction; it is electrical conditions. An amount of substance from the sun would have more attracting power than the same amount from the earth, because the sun has more electrical power. A lodestone has more attracting power than the same amount of ordinary substance. A pound of iron has no attracting force until it is magnetized; then it will lift many times its weight. So size, weight, or gravity is no test of attracting power.

I therefore repudiate the law of gravity and adopt electricity, with its dual force of action and reaction, attraction and repulsion, as the supreme cosmic evolving force of the universe, creating all light, heat and life and producing all the varied and wonderful phenomena of nature.

I hold that by the law of electric energy the sun is not a thermal or heating engine as the astronomers proclaim, but is an electric generator and is not hot, and that the sun's rays, neither where they originate or where they act are hot, but they come to the earth as cool currents of electricity, which generate heat near the earth's surface by coming in contact with an opposite electricity and the resistance and friction of its atmosphere. Proof of this is found in the snow-covered peaks of the tropics and the glaciers of the torrid zone.

I have waited six years for objections to the electric theory of creation and have found only one recently stated. This first and only objection is that electricity is a derivative force.

Prof. G. F. Wright, of Oberlin, in an article in the *Chicago Record*, Dec., 1902, says: "Many of the speculations concerning the unlimited use of electricity overlook the fact of its derivative origin. Electricity is but transformed force. It is not a producer of force but a consumer of force. It merely directs the force to its specific end. The electricity which propels and warms the street cars of Buffalo, and furnishes power to its small factories and illuminates its streets is merely force diverted from the Falls of Niagara; in other words, it is transformed gravitation."

True, but gravitation is simply electric attraction, and the electricity that propels, lights and warms the cars is electric attraction diverted from the Falls and used on the cars. It is not derivative force, but the original and only force—electric force transferred from the Falls to the cars.

But Prof. Wright himself destroys his own argument when he says: "In other cases the electricity is derived from the heat of consuming coal, while the coal is the product of the sun's rays, chemically sealed up in the coal deposits of the early geological ages. Indeed it is easy to see that all the available force in the world is the product of the sun's rays." In this we fully agree, for I say the heat of the coal and the heat of the sun is electricity. The sun's rays, which he says "is all the available force in the world," is electricity, and the sun is the great electric heart of the solar system. Thus we differ only in terms. While he whips electricity around the stump, and says it is a new thing every time he turns a corner, I say it is the same electricity, without any change, and proves the oneness of the universe as a vast electric organism.

Thus our great scientists befog themselves. Now that Langley says there is only one radiant matter, and light, heat and chemical changes are all one entity, perhaps he may change his view. I have tried to convince these crosseyed reasoners that all force is one force and all matter is one matter, and the scientists are now coming to that conclusion steadily.

Prof. Wright says again: "The strength and warmth of all animal bodies is traceable to carbon, and whenever we move a limb or walk, the power to do it is obtained by the consumption of carbon." Well, I say carbon is one form of stored electricity. He says: "The ox feeds upon the grass which is collected or grows through the influence of sunlight," and I say sunlight is electric currents from the great electric dynamo, the sun.

He says: "The nebular theory is faulty," and I agree with him. He says: "Gravitation is an utter mystery that has baffled all scientific explanation," and I agree with him, and go a step further and affirm that there is no such thing as gravitation and never was. Newton discovered one of the dual forces of electricity, which I call universal electric attraction, and called it gravitation.

He says: "So far as we can see, gravitation acts instantaneously, and Newton gave up the problem of defining it, and said he had no explanation except to say God so made it." This is true, but Newton knew nothing of electricity or his great intellect would likely have discovered the truth and named and explained it as electric attraction.

Newton discovered an imaginary force, an idea, a dream, "an occult force," as Leibnitz called it. Newton had an imagination which the scientific plodders who have come after him lacked. They have dug in the dirt, while he sailed through azure seas, and linked suns and worlds together by a mere sweep of the imagination, without any explanation or conceivable cause, and called it gravity. He might just as well have called it ponderosity.

Phillip Akinson, in his work on electricity, 1902, asserts that "energy manifests itself either in masses of matter or in small particles, called molecules, and thus we have two kinds—mass energy and molecular energy." But have we two kinds of energy? Mass energy and molecular energy is the same.

Mass energy is but the aggregation of molecular energy.

Large bodies attract small ones because they possess more electric energy. Gravity or weight is but another name for aggregate molecular electric attraction of the earth for everything upon its surface. The gravity or weight of a man is the pull or force with which the electric attraction of the earth holds him to its surface. In other words, the earth is a vast magnet, and man's body is a smaller magnet, and as the magnetic core of a steel magnet draws all metals towards its magnetic center, so does the earth magnet draw all things toward its center.

The same author states that, "the earth is a great thermopile generating electric currents by the difference of potential between its heated and cooled parts." In this I agree with him, but he only states one of a thousand ways to generate electric currents.

He says further: "Heat is believed to be a certain mode of molecular motion, and electricity to be another mode; but the nature of the motion of each has never been discovered." And I think never will, as long as the false notion prevails that heat and electricity are modes of motion. A mode of motion is nonsense, for motion is an effect produced by a cause—it is not a cause. And all cause of motion is electricity, and the mode of operation is the law of electro-magnetism.

There is no difference in the law or the mode of operation of electric currents in a volcano, in a cloud, in the earth, in the sun or planets, in an electric light, or in a man's body. The same law exists and the same natural results follow when one lights the gas with a flash of electricity from his finger, as when a meteor blazes, a comet flares out in space, or a sun becomes luminous. The same force that man causes to run along a telegraph wire, or through a telephone circuit, or which runs a street car line, or is taken by the brushes from a revolving dynamo, is the same force and operated under the same law or mode of force as the electric life-giving currents that come from the sun constantly in an omnipotent tide of power.

Prof. Thomson says: "The earth is generally found to be negatively electrified, and is insulated in its atmosphere, being in fact a conductor touched only by air—a strong insulator."

He says further: "The quality of non-resistance to electric force of the interplanetary ether being considered, the earth, the atmosphere and the surrounding medium may be regarded as constituting respectively, the inner coating, the dielectric and the outer coating of a large Leyden jar charged negatively."

Prof. S. P. Thomson in "Electricity and Magnetism," says: "Gilbert made the discovery that the compass points north and south because the earth is also a great magnet. Faraday said: 'All matter is in a magnetic condition.' Sir Oliver Lodge says: 'The idea that magnetism is a whirl of electricity is as old as Ampere. Perceiving that a magnet could be initiated by an electric whirl, he made the hypothesis that an electric whirl existed in every magnet.'"

Maxwell announced the proposition that electro-magnetic phenomena and light phenomena have their origin in the same medium and are identical in nature. Hertz, by actually producing, detecting and controlling electric waves, caused the discovery of wireless electricity. And it is by the wonderful wireless telegraphy of light that man is put in communication with every considerable body in the universe, including even the invisible. By it the goings on in Sirius and Algol, Orion and the Pleiades are reported across enormous stretches of millions of millions of miles of space. And by the vibratory motion of the invisibly small, all things are revealed; the infinitely little has enabled us to conquer the inconceivably big. I hold seeing and hearing are the simplest examples of wireless telegraphy.

Elihu Thomson, the great electrician, says: "Hertz proved that all luminous phenomena are in essence electrical. Wireless electricity is the outcome of Hertz's experiments on electric waves, and electrical conditions and actions are more fundamental than hitherto regarded."

William Ramsey, the distinguished chemist, says: "It is a primary assumption that atoms of elements or in certain cases groups of atoms are themselves electrified, and atoms possess positive and negative poles, and combinations ensue between such oppositely electrified bodies."

Mr. Francis Grierson, a prominent scientist of London, in a recent London periodical, says: "So far as we know electricity is the soul of visible form. What we call brain waves have an analogy to electric waves. The discoveries and inventions of the last ten years have made child's play of every previously known system of philosophy. The simple but amazing facts disclosed during the past five years, render the dreams, speculations and guesswork of the past absurd. The little we know in a practical way is more than all the philosophers of the past knew from Aristotle to Leibnitz."

Prof. Langley, in his address at the 1902 session of the American Association of Science, stated that, "up to 1872 it was almost universally believed that there were three different kinds of energy—actinic, luminous and thermal—represented in the spectrum;" but he affirmed: "There is only one radiant energy which appears to us as actinic, luminous or thermal, according to the way we observe it."

"Heat and light are not things in themselves, but different sensations in our bodies, or different effects in other bodies. They are merely effects of this mysterious thing we call radiant energy." He thus sustains my position and the electric theory of creation, which is, that there is but one universal and ultimate energy which he calls radiant and I call electric energy, and which are the same thing.

It is said that an Italian physicist wrote in 1843: "Light is merely a series of colorific indications, sensible to the organs of light, or vice versa; the radiations of obscure heat are veritable invisible radiations of light." This Langley, by his elaborate researches, more refined and complex than all preceding ones, proved to be true. Since so orthodox a scientist as Langley has proven there is but one energy, the other scientists may stumble over it awhile and then accept it, because he is high authority.

Sir Oliver Lodge, in the "Electrical World," of February 21st, 1903, sustains the electrical theory strongly. He says: "All matter is electrical in its nature. The difference between one kind of matter and another lies in the physical and chemical properties of the atoms; but the difference between the atoms is merely due to the difference of the electric grouping of the atoms."

He holds that the Thompson corpuscles are all electric. Thomson's theory is that negative electricity is matter. Lodge holds that all matter down to the ultimate corpuscle is electricity or electrical substance. Thus I am sustained by the highest most recent authority.

Prof. E. L. Larkin, of the California University, said recently: "The earth has a permanent charge of negative electricity, and the atmosphere is positive. The surface potential is therefore very near zero. This permits electro-magnetic waves from the sun to act with unabated energy." Prof. Lucien I. Blake of the Kansas University said in a recent lecture: "All atoms of matter are charged with electricity. All vital actions are always connected with electricity."

I could fill a volume with recent statements of scientists showing that electricity produces all the phenomena of nature, all of which they have learned in the last few years, while as a pioneer in this field of thought I have been trying to propagate these electrical theories for many years.

Every year new facts are discovered showing that electricity is the cosmic, evolving, ultimate and only force in nature and the universe is a vast electric machine or organism moved by electric currents of measureless force and power. The earth revolves around the sun, the sun gravitates around some siderial center in motion like itself, and myriads of suns and planets with their countless population move with many times the velocity of a cannon ball. Stars that seem tranquil and motionless in the heavens are projected through space with a velocity of one hundred to two hundred miles per second. The constituent atoms of our bodies move relatively with as much velocity as the stars in heaven. Motion—electric energy—reigns everywhere, forms everything, controls, handles

and evolves all suns and planets, all physical life, substance and organisms in human experience and universal nature.

The electric rays of light from suns and stars of the most distant constellations dart their beams across the universe, and centuries after, the impulse of electric energy enters the human eye, and gives sense and vision to the soul. Thus the dynamic chains of electric light binds into living unity the realms of matter and mind, "through measureless amplitudes of space and time."

These electric currents are not only the source of all natural phenomena, but the sea of electro-magnetism from which they come is the reservoir of life, which stands back of all the myriad manifestations of physical existence, and is the great fountain of vitality from which all life must come.

What is electricity? Tesla says it is "invisible light," Atkins says it is "molecular motion," Fleming says it is "a spiral twist of the ether," but the best definition is given in the Scriptures where it says all things were made by the "word of His power." It is the word of creative power.

CHAPTER III

ELECTRICAL CREATION, BRIEFLY STATED. IT SEEMS TO SOLVE THE RIDDLE OF THE UNIVERSE

As the nebular hypothesis and gravitation explain nothing and show neither the primary elements nor the primary energy of the universe, we should go to the dual forces of electricity which do. As we have learned little more than a name from either, I think it is time to try another hypothesis. Walking single file in dead men's shoes for two hundred years is quite long enough.

I am willing to submit the following hypothesis as my conception of electrical creation and the true theory of the universe.

First—Creation was wrought out by the agency of electrical forces, operating on invisible elementary matter, controlled by the intellectual impulse of an infinite power.

Second—These creative cosmic forces, by condensing the suns and planets into vast magnets revolving in a sea of electro-magnetic forces, evolved the marvelous machinery of the universe.

Third—This machinery of the universe became self-propelling and self-sustaining by reason of the laws of motion, growth and evolution impressed upon it, or by the joint sovereignty of two equal, correlative forces: magnetism, a form of electricity maintains the sovereignty of attraction over matter in body, while electricity, another phase of the same force, maintains the sovereignty of repulsion over matter in space.

Fourth—For these reasons electricity is a universal power joining together the two kingdoms of the heavens and the earth—of matter in body and matter in space. And these forces in their unity of harmonious work can suffer no disturbance equal "to the dust in the balance."

Fifth—These floods of electricity and magnetism affect the least and the greatest, "directly as to mass, and inversely to the square of the distance."

Sixth—The sun and planets are vast magnets because they are held in charge of electro-magnetic forces in an immense magnetic field. These forces are not from these bodies originally, but these bodies are from these forces; and these forces antedate all forms of visible matter.

Seventh—The primary state of matter is the diffused etheric, invisible state, and the building of matter into body is the work of these forces when in charge of matter under organic affinities. Magnetic lines of force fix centres and build around such centres by drawing elemental matter from the radiant sea of space by magnetic energy, into globular forms that become growing worlds, drawing their power and increase of form from the sea of invisible matter in which they are fixed by their axis and orbit lines of motion and force, constituting them working electro-magnets.

Eighth—These electro-magnetic forces are the eternal cosmic forces of perpetual motion, ever working by the law of action and reaction, attraction and repulsion, and evolving world forms and animal and vegetable forms.

Ninth—The sun having grown from the sea of invisible etheric and nebulous matter by reason of these wonderful electro-magnetic forces into an immense magnet, larger than all the lesser magnets or planets of the solar system combined, holds them in the magnetic field of his sovereign power, and is, through the flowing currents of electricity, the creating, governing force in the solar system.

Tenth—These same electric forces are condensed into smaller magnets and electric organisms or machines, which form electric centres and build up all tangible forms of matter—human, animal and vegetable. And all visible matter is but the outer shell and visible garment of these invisible forces.

Eleventh—Without the floods of electric substance or power that come to us in the electric currents of the sun that flow in currents of strength through our bodies as they propel the inflowing and outflowing floods of atomic elements of matter, that are laden with incoming supplies of daily life

and outgoing wastes, by attraction and repulsion, assimilation of food, respiration and perspiration, our bodily forms would perish or be wholly unfit for the dwelling-place of our spirits.

Twelfth—Our five senses—seeing, hearing, tasting, smelling, feeling—that connect us with the world of matter are entirely dependent on electricity and the invisible etheric forms of matter that surround us everywhere and constitute the connecting ties, the invisible ligaments, that pervade and bind all forms of life in nature's wondrous harmony.

Thirteenth—The boundless fountain of infinite energy in atoms in body and atoms through measureless space are superior to any mere sun form or world form of visible expression of such energy. The floods of radiant electric energy that enwrap the sun and planets in orbital lines of omnipotent strength are to these bodies the everlasting fountains from which flow their upholding and evolving power and the conservation of force in their transforming energy.

Fourteenth—As all visible forms of matter are built from invisible elementary atoms, so the most efficient display of electric power finds its expression and source in the same elementary atoms. The electric power working in all atoms of matter gathered in planetary form, saturates such planetary bodies with electric energy, as the steel of the magnet is saturated with such forces, and reveals in the sun currents the source of all terrestrial power and organic life.

Fifteenth—The chemists claim to have discovered about seventy different elemental substances in matter, but they are not primary elementary substances; they are secondary, and caused by the marvelous electrical combinations of the two primary elements—atoms and electricity—and are what Herschel said they looked to be, "manufactured articles."

Sixteenth—The laws of magnetic attraction teach us that positive and negative polar forces, flowing oppositely between sun and earth, establish the bond of union between them, and the transmission of electric energy must be equal between them, and the flow through space at the low level of latent energy.

These two oppositely flowing floods of electric energy, under the great law of electro-magnetic attraction, pass through ninety-three million miles of radiant matter in eight minutes of time and enter the resisting atmosphere of sun and earth, their currents thrilling with energy at the high tension of opposite polarities beneath their atmospheric envelope. Thus the attraction known as gravitation, but which is electro-magnetism, pours a constant flood of light and heat upon both sun and planets, and thus the electric light and heat of the sun and planets evolved from their resisting atmosphere, and the contact of their positive and negative electricity, become creative potencies, deriving their vast power from each other, and from their environing space of virgin, imponderable matter, and thereby give life, motion and utility to all visible created things.

Thus we find that light, heat and vital force is created by the contact of the positive and negative electricity in the magnetic atmosphere of suns and worlds. That the electric affinities in matter proclaim an electric origin, and the invisible atom as the material basis of all material life; and by tracing their source to electrical and magnetic energy, we have reached the foundation upon which is built the eternal structures of the universe, and the bounds of all creation.

CHAPTER IV

ELECTRICAL CREATION MORE FULLY STATED CONFIRMS SCIENTIFIC EVOLUTION

I contend that electrical creation confirms scientific evolution. In the beginning the elements assumed form when they came into such a state of electrical balance as enabled them to move in uniform order. The more perfect the order the more perfect the form. The crystal is fine proof of this, for when the elements composing it are all marshaled into perfect uniformity of action the crystal becomes a perfect structure well nigh indestructible. This principle of the crystalline formation of the elements is the basis of world building.

In a small volume entitled "Planetary Evolution," the learned author, who is too modest to give his name, says: "Atoms are absolute potentialities, creative rather than created conditions of the elements, and have the power of inherent energy or life motion. All tests show the atom remains the inscrutable source of creative power, and the basis of all chemical activity, and must be the basic principle of world building, life motion and life energy.

"In all the operations of chemical transmutations no material is lost and no power wasted, and, by the law of the conservation and correlation of force, both energy and material must exist as correlatives. This places the nature of matter upon the same basis as the origin of power. The transformation of force into material is impossible. Force follows the laws of motion, and atoms the law of form obedient to the lines of motion." This is well stated.

This author says further: "The atom has the power to assume form and create form, and matter and force cannot be transformed into each other." Then this power or force must come from electricity, the primary force in nature; and it has power to assume form and create form by reason of electric energy controlled by spirit intelligence. In planetary construction the first thing that meets our vision is the arrangement of the atoms in crystalline formation, which is the foundation of all planetary structure. The atoms in space continually change their relative positions and construct world forms and organic forms of beauty and power. They settle into globular spheres with all the precision of a trained army or a disciplined mass of life and energy, forming the crystalline masses that compose the primitive foundations of the earth.

Polarity has much to do with the phenomena of crystallization. The same author says: "Polarity is the result of the transverse lines in which the atoms move previous to their comparative arrest. The planet as a globe can have only two poles, but the crystal has as many as the lines of direction in which the moving atoms cross each other's path."

In interstellar space he affirms the atomic relations of the elements are undisturbed by any power that would tend to divert the atom from its movement in a straight line; force is transmitted from atom to atom without any effect upon its motion or change of equilibrium. The power of transfer is the basic principle of the electric current, and as long as the direction of the current lies in one of the lines of atomic motion the current passes without resistance and is imperceptible; but if it chances to meet in its pathway a line of force passing from atom to atom in a different direction, there is instantly a neutralization of motion and the arrest of each atom at the point of crossing which gives polarity, and the molecule is the result. In space the electric current is the first form of creative manifestations the atoms assume.

Electricity belongs to the atomic forces, has intimate relations with organic life, and gives us a key to unlock its mysteries. Electric energy plays such an important part in cosmic construction that without some knowledge of its nature it is impossible to explain the processes which are the basis of world building.

The crystal rock under microscopic examination shows the same beautiful figures and marvelous lines of arrangement that in winter the new fallen snow-flakes exhibit, and indicate that the lines of form are essentially the same that gave the planetary rock its forms of crystalline beauty and massive structure. And the beautiful snow that falls so gently upon the wintry lap of earth is one of the best representatives of creative power acting in the primitive states of formative forces. This tends to show that the earth began its formative period in extreme cold and not heat, for the formative lines of shape and force are the same in the crystal ice and crystalline snowflake as they are in the crystalline rocks of earth's primary foundations. And they all indicate the lines of electric energy and magnetic force in atomic activity and molecular formations, which are the beginning of all visible material creations.

The shaping of the molecules of the so-called cosmic elements by electric energy into crystalline form is the second great step in world building. While magnetism (the dual force of electricity) serves to hold the form-structure in more or less enduring relations, for the magnet has the power to radiate atomic force in circles and tends to draw the elements into form and hold them there. The electric force keeps the atoms always moving; the magnetic force keeps them or would keep them in atomic balance, or at rest, but electricity keeps magnetism always on the alert, and between the action of the two, or attraction and repulsion, all visible forms are evolved and dissolved.

Thus magnetism is the centripetal force, of planetary construction, and electricity the centrifugal power of planetary changes, and upon these two depend all the complex varieties of inorganic and organic forms that exist. And so long as they exist with their powers of atomic motion so long will world building and form building continue, and must continue through the æons of creative force.

The magnetic state of the earth, with the pulsating currents of electric force in the atomic and radiant form, plays a sovereign part in the economy of nature and makes the planet itself alive with creative force and evolving power.

To demonstrate electrical power in world building and the shifting relations of the elements in the planetary combinations, watch the electric plating battery at work. There you will see the atoms in the solution flowing towards the negative pole and depositing themselves in minute crystals upon the metallic surface, if the negative pole is a metal, and adhering with great pertinacity; the metallic crystals penetrate the crystalline surface of the substance to be plated in minute arms filling up the infinitesimal space, and the atoms in this process transfer their atomic motion in line with the electric force, and become arrested as in the primitive state when they formed the crystalline foundations of primitive earth. It will be found that the power or electric force required to plate one metal is just the same as to disintegrate it, and the electric force is a great solvent, while the magnetic force is a concentrating form-moulding world-building power. And these two forces evenly balanced perpetuate the universe. The fluidic condition of matter arises from molecular activity before the atoms have assumed the crystalline state, and all fluids are easily vaporized to invisible gases.

The primitive planet, in coming from nebula to crystalline form, had to pass through the fluidic state, because the electric atomic balance had not yet been acquired sufficient to produce solidity.

In this stage there could be no organic life; but the earth was enveloped in dense clouds of vapor, and there was no light for many ages, because the earth's surface was below the electric and atomic rate that produced light, and the dense gases and vapors floating around it and between it and the sun prevented the light penetrating its atmospheric pall of darkness.

But in that darkness and vapor and cosmic convulsions was going forward the processes of organic construction essential to fit it for the coming generations of sentient life. Night and darkness ruled, but chaos had no part, and never ruled in all the cycles of creative power. The direct currents of electric force and the circular currents of magnetic power swept through and through earth's molecular structure, ranging the atoms in all the lines of crystal perfection and spherical form, and laying the rock-ribbed foundations in geological stratas in the heart and center of a growing world.

The lines of electro-magnetic force at this period in the planet, with their circular spiral motion, would shape the world into a globular spherical form, and the elements in watery solution would almost come into crystalline firmness, and then an impulse of electrical power would throw them into restless agitation; and again they would respond to the grasp of magnetic strength and return to a state of partial arrest near the crystal condition, and again sway back to the electric primitive molecular state. But they could not get free from the lines of magnetic force which held them with giant grasp until they were incorporated into the foundation rocks of earth's solidifying sphere. And the centre of our planet became a vast solid crystalline magnet, and was never a fiery mist or molten substance.

Finally when the crystalline rocks were settled into a crystalline globe the life-cell was born as the basis of a new condition of planetary form. And in the dark waters where no light was, organic life under the law of creative electric energy began its work upon the planet. The life-cell is the resultant of electric-magnetic action.

During this period of primeval "darkness upon the face of the earth," the resistless electric waves of the sun were beating upon the cloud-enwrapped surface of the planet, but its light had no power to penetrate its cimmerian gloom. And the earth was sending back its pulsating magnetic currents to the sun, and both were evolving themselves into giant dynamos of marvelous electric power—giving and receiving electric currents of positive and negative polarity of wonderful life-giving potency. Gradually the earth solidified into a vast magnet of crystalline rock and metal and like the magnetic core of a steel magnet of vast extent and power, it drew millions of meteors from space.

The internal electric forces in volcanic convulsions were upheaving islands, continents and mountain ranges, rending the rocks and crystalline strata in the contracting crust of the earth, amid lightning flashes and resounding crashes of thunder, like the fabled Titans in primeval battle. It was a contest of the giant forces in their elemental power baptizing a world in the fires of creative and creating energy. The planet was shaken by magnetic force and torn and agitated by electric storms. Gigantic boulders were dislodged from the surface and ground into powder against each other, making soil for coming vegetation and marking out the pathway of the rivers and valleys. It was the adjustment of elemental forces, the night of ages in whose depths and womb of viewless power conscious life originated by electric energy under the evolving law of evolution as the will of Creative Deity. And the mountain ranges following the lines of axial direction of the two poles upon opposite sides of the planet began to slowly rise above the surrounding waters, and lifted their mighty crests above a world floating in surging waters, and darkness, except as it was lit up by lightning gleams of electric power. It may be that during this stage of the planet was laid the foundation of all the distinctive types of life-force, including the cell forms that lay at the basis of living structure, the plant forms and the living forms of animalcular life that float in the ocean below and mists above. All of which had their home and birth in the dense darkness that covered the face of the deep.

It was the formative period of elementary life, and the descendants and successors of that mighty host of living beings have to this day to lay the foundations of their being in similar conditions of darkness. Creative energy in its first stages of living form operates in dense darkness, and the first life upon the planet began and perfected itself in the age when midnight gloom enveloped the globe. "The Supreme Power," says the author of "Planetary Evolution," "wrought out its purpose with no eye to discern its workings and no helpless ignorance to dictate what was needed to make a world." The deep-sea soundings show that life still exists there without the aid of sunlight and that there is no limit to the domain of organic life. And the necessity exists even at this age for darkness during the formative processes of embryonic life.

All microscopic life embodies the essential characteristics of activity and form that distinguish many of the distinct types of animal and vegetable life. The mould that gathers upon decaying bread is a great forest when sufficiently magnified. The wiggling animalculæ in the stagnant water is but a prototype of the writhing serpent of the Brazilian forest. In these two types of minute organic being we see the first stages of life in planetary formation. And the induced electric energy on the

animalculine organism compelled it to both growth and activity, and, obedient to that principle, it added cell to cell in any direction that that electric energy in that form sought relief, thus producing different types of organic structure. The influence of the pent-up currents of electric energy was destined to have a moulding power upon the higher types of organic life, for their influence upon the living form soon became manifest in the construction of nerve-tissue, which is the basis of all animal structure, and the beginning of all embryotic form, and is essentially the same in all organic life.

All attempts of science to formulate a theory of the source of life end in an abstraction. To teach that life originates in a germ leads to an analysis that shows the germ is a compound form itself, and one of the stages of incipient life. The advocate of the cell as the primitive source of life soon discovers that the cell is the result of chemical forces that have not yet arrived at the germ state, and that both the germ and the cell are but successive stages of life development, and we must go further back into the realm of the invisible electro-magnetic forces for the true source of physical life. Here the untrained intellect is bewildered and is unable to discern any relation of force beyond the physical senses, and science and reasoning causation must explore the invisible realities, and realms of force beyond the physical senses, which requires the highest order of mental training. It is in the mental realm, the realm of spirit and electricity, that we must seek the solution of all the higher problems of life and destiny.

In the spermatozoa of the male is the first evolution of the organic life of the planet. It is the electro-chemical combination of elements in which the primitive cell was formed, and in nature's corresponding environment it goes steadily forward through all previous stages until perfected in form, and becomes a miniature production of its parent structure. It thus unconsciously followed the forces and elements of the parent organism whereby that parent organism came into being from its parent, and so on backward for generations and ages. And in order to perfect the power of sex to the highest degree and preserve the life of the race, there was a differentiation in the embryonic state, whereby one organism, the male, became the power to preserve the energy, while the other, the female, became the environment to perfect the form.

This was no miracle, but a response of the organism to the waves of electric power in the planet, which at times and conditions would be more positive or negative in their electric energy. For all the elements of life and the universe animate and inanimate are sexual, male or female, positive or negative, in their natural relations.

The higher types of life are almost wholly dependent upon the arrangement of the cells on a high electric tension, and the early forms were almost wholly of nerve-tissue structures, and the primitive animalculæ followed the law of differentiation and were able to construct muscular fiber and bone formation, and became the fish and reptiles that inhabited the ancient seas.

The processes of planetary formation are resultants of electrical action among the elements that form the planet, and here is the true field of scientific research for the knowledge of causation as expressed through world construction. To the chemist and electrician belong the task of explaining the processes of world building as well as the secrets of life itself, and they must be found in the laws that control the electro-magnetic ether that permeates all atoms and space.

In the paleozoic age there were surging tides of electric energy through the planet itself, producing induced currents in all the forming bodies upon its surface. And these primitive currents swept the cell-formations into lines parallel with their lines of force the same as crystallizations, and as they were floating in circumambient water, the cells took the form of tissue structure, forming organs that followed the crystalline law of self preservation, and, in response to changing electric currents, throwing out new cell-structures.

Nerve tissue is the highest form of atomic balance that is visible, and the true basis of form structure that has vitality to meet the shifting electric currents. The tiny cells joined themselves to form new structures to respond to the electric waves, while the lower magnetic induction of the planet sent its power over the new tissue to hold it in form so that the organism could be partially permanent

in form in its new environment. In this manner the organism grew and expanded from the primitive animalcular nerve type to the consolidated, firm tissue that enabled it to hold itself from dissolution under adverse conditions and planetary changes. The action of electric force in building secondary forms with a magnetism of their own is one of the most wonderful exhibitions of nature.

And now comes a startling result of this type of energy that has called living organism into being from the lower grades of atomic life. The cells that have formed themselves around a central point, as in the crystalline state, begin to quiver and vibrate with a strong rapidity that defies all power of restraint. In them is to be seen a new relation of the elements that grade still higher in the scale of atomic action. They have risen in the power of sensitiveness above the plane of receptive response to the swaying currents of the earth, and begin to send out currents of their own. Those currents penetrate the whole system with strange energy, and the organism begins to respond with new expressions of power. It moves with reference to the currents that it creates itself, and we have the first type of creation with a brain center governing the whole system.

That brain tissue is the result of the action indirect of the electric energy that is sweeping the planet in ceaseless lines of force and power. It sends its induced currents upon all the forming host of animalcular life floating in the dark waters, and some begin to grow brains.

The cellular structure ranges itself in line with the positive and negative polarity that made the crystalline form of the world a globe, and from that living cell-battery go out the currents that control the form by the inward force that ever after is to witness to the power of constructive energy to create living beings with sentient power to regulate and control their own destiny.

Meanwhile the surging tides of electric energy are forcing the continents upward, and the fish that swim in the paleozoic seas find the waters receding and himself part of the time on the land or in the mud and shallows, and the growing organism, from generation to generation becomes adapted to each condition of life on land and water. Then comes to pass the raising of the organism from the fish to the reptile by the influence of electrical induction and change of environment. Then also comes the growth of plant life, and the marvelous varieties of vegetation in the form of tree and shrub and grass. Upon the land, half submerged, the vegetation that had its rootlets in the former ocean bed grew from sea weeds into rank grasses and ferns, the types of which are seen to this day in the dense forests and jungles of the tropics.

In the early period of the paleozoic age the molusks, polyps, and marine plants were evolved without any reference to light whatever and depended on the sense of feeling to provide for the necessary food supplies to maintain their organism.

We have in the night-blooming cereus a flower that belonged in that epoch of the world's evolution when plants flowered and perfected their seed bearing in the dark. And in the salamander, beaver and hippopotamus a type of the amphibious animals of the early ages. We have in the bat a type of animal that flourished in the darkness of earth's formative period, and in the embryonic period of animal and man we find the beginning of the life processes in the darkness of the womb, and all seed of vegetable and plant must be buried in the darkness of earth before it can bring forth new life.

Every living structure on the planet takes form by the laws of nature's creative processes; and the secret unfolding of life structure to-day, however perfect at maturity, is a complete record of all the previous stages of formative growth in animal life, from the vertebra of the fish to the contour of the mammal and the man, condensed as to time during the period of gestation, but following the original lines of formative structure, power and principle.

This and all growth and evolution is the result of electrical energy under divine law and spiritual control. Electrical power is the great agent in arranging molecular compounds into all forms of animal and plant life as well as crystalline structures and world forms. The duplicates of plant life with the secondary crystalline forms are found in limestone caverns of the earth. There, in the dense stillness of eternal night, many forms that are seen above ground as plants and flowers are there wrought out

in solid stone, as the crystalline limestone rock has arranged its molecular structure obedient to the same lines of form as the electric currents in the upper atmosphere follow in vegetable life.

Thus in the eternal nature of the atom and electric energy with their inherent potencies the Creator has abundant resources not only to make this planet, but also the countless worlds of boundless space. And in the wonders of electrical potency in this planet alone He is constantly producing results that excite profound gratitude and reverence. At length when the clouds of darkness faded away and the atmosphere became translucent, and the glorious light of the sun—the great electric heart of our system of worlds—shone upon the earth, there was a new realm of infinite life and expression to lift the world and all organic life to a higher state of perfection.

While the world, like an enormous battery, had in itself enough energy to hold the planet in its spherical form and to stimulate to activity the secondary forms of life, had not the sun come into more vigorous activity with its electric life-giving energy the earth could not have gone above the primitive forms of life. With this greater influx of power from another sphere of causative energy, the dark age of animality passed and the monstrous types faded out, and in the place of them the world began to bear a class of beings that could reflect the power and principles of light and beauty. And under the pulsations of the sun's electrical and magnetic energy the earth started on its marvelous career of organic growth and development.

The sun, as an immense electrical reservoir battery, must radiate in all directions its electric vibratory power over the surging elements in its own environment and from thence through electric atomic transfer to bodies in space. So that whenever a body was in direct line with the magnetic centers of the sun, the arrest of the electric current and atomic motion coming from the sun's center by another magnetic center, as the earth or any other planet, would instantly change the rate of the environment of the planet magnet to a grade of intensity that would give light and heat. In this manner light, heat and greater vital force was born upon the earth, when its dark clouds lifted and its atmosphere became translucent, so that the sun's electric currents could affect the earth through electric transfer. Thus the influx of external light upon planetary life was positive and marvelous, introducing a new power upon the forming organic life in the vegetable and animal world, and working great changes in all organic structures. And in response to this new power the eye began to form and a new and distinct organ of sense was perfected. It was slowly developed at first, for the light radiated from the sun penetrated the mists of earth dimly, for it was almost midnight gloom in some sections and dusky twilight in others.

So far I have said nothing of excessive heat, for the earth began in excessive cold. But as the earth magnet or dynamo increased its electric power it increased its heat.

We now come to the dawn of instinct or rationality in the primitive types of life. There we find a basis for the first principles of instinct or animal rationality in the balancing of one sense by the exercise of another, and the combined results of the two. Seeing and feeling gave a higher type of brain power, and raised that organ to a higher grade of perception and a newer type of intelligence.

Then another faculty added its powers to the sense of sight and feeling, for the atmosphere in which the reptilian tribes were living half the time or more were sending out sound waves which touched the nervous filaments of the central battery of the brain, and as the eye had formed to respond to the waves of ether caused by the electric currents of the sun, so a new organ began its formation in response to the incoming waves of power the atmosphere brought to the brain-cells, and the ear began to gather in concentric circles around the brain-center, and a new sense—that of hearing—was formed. Thus there was an additional increase of the power of perception or instinct. Thus were evolved all types of animal form and animal instinct. They were the result of electric energy, sense perception, and long ages of growth, comparison and environment.

Then came man, the highest type of animal organism. Man may have passed the successive changes and transmutations of form that the shifting vibratory rates of the planet responded to in the long period of world building. He may have attained to the grade of animal activity as a mind of the highest order in bodily form before he received the spiritual powers and intellectual force which he

has exhibited all along the ages, after all animal forms had battled with the elements in the struggles to keep in equilibrium between the surging tides of electrical dispersion and magnetic concentration. Certain it is man holds his own by virtue of his steady rise in mental power which has no limit of evolution in the present stage of physical life and psychic life. And there are no known boundaries of his power to penetrate all mysteries and explore all conditions of existence "wherever being has laid foundations, or law is working out the problems of infinite destiny." Man came as a spiritual creation.

Many scientists discard the religious or Mosaic concept of a special creation of man and a divine revelation, and hold that the revelations of science are the only revelations of God that the world can regard as reliable.

I cannot agree with them that man was evolved from the animal creation. I hold he was a special creation, as Moses says he was; but that special creation was not his body—that may have been evolved from the lowest forms of animal life through many ages, and is no part of the real man. It was woven by electric law and energy as an overcoat of atoms for his earthly habitation. Man's body is not man, but the house in which he lives for a time, the earthly temple of the soul. Moses affirms this when he says "God breathed into man the breath of life, and man became a living soul." It is the breath of God, the atom of Deity, the living soul that constitutes man, and that was a special creation. This I have discussed at length in "Invisible Light." I hold no law of evolution could bridge the gulf between man and the animal creation. The fixity of brute instinct, and the boundless expansion of mental and psychic force in man forbid such a conclusion and confirm Moses, who says he was made lord over the earth and all animal creations. Man has three bodies—a spiritual, an electric and a physical body. Animals have only two—an electric and physical body. And both the electric and physical bodies of men and animals came from the same source and are governed by the same laws. Animal instinct is not spirit, is not a part of Deity, it cannot dream of God or heaven, or comprehend the universe or weigh suns and worlds.

It knows only the electric impulses of the material senses and reasons from these alone, and, by balancing one sense by another, attains an experience which in time becomes an automatic habit or force of nature under the law of its electric organism. It feels all sensations, like hunger, passion or fear, as an electric impulse on the sensitive tissues of the brain and responds from natural habit. It does not think, reason or soar into the boundless fields of ideality. It cannot feel the spiritual touch of human souls, or the divine impulse of God and love, of music, poetry, language, art and religion, as does the human soul.

Man is as much above the animal creation as the animal is above the vegetable and the vegetable above the mineral.

We have seen that the mineral is created by aggregations of atoms solidified under the law of magnetic attraction and brought to rest by balanced forces into crystalline form, and thus incorporated into the foundation elements of the earth magnet. They are simply electric and atomic forces and atoms balanced and at rest. They have no organic existence. Vegetable life, which is next above them, have organisms, and are sun engines breathing in nitrogen and giving out carbonic acid or oxygen to sustain animal life. The vegetable organism furnishes food for all animal life.

There can be no evolution of plant life into animal life. It is not scientific to search for such an irrational order of development. Vegetable, plant and tree in their organic life structure, never become animals. They have no independent existence separate from the sun's rays and the earth's soil except as latent in seed life. Cut off the sun currents from their leaves and the electric earth currents from their roots, and they are at once weakened and destroyed.

Animals are a higher order of life which have an independent existence in atmosphere and water—electric elements—separate from earth dust, and which evolve and give forth in their own organism the electric instinct and impulse which controls their own actions and habits.

They have no psychic or intellectual force, and can never be evolved into human souls or organisms. Man is as far above the animal creation as the heavens are above the earth. He is not the

descendant of a monkey or any other animal creature except possibly in his bodily organism. He is a soul and belongs to the Spiritual Kingdom of God.

The scientists say there are three kingdoms in nature—mineral, vegetable and animal. I say there are four—mineral, vegetable, animal and man, or the spiritual Kingdom of God. Man is a soul or spiritual body which is from God and a part of God. He can think, reason, aspire, analyze, and soar into the psychic realms of the spiritual world and commune with angels and Deity, and is a spirit monarch of the universe.

And his longing, heaven-bound nature cries out to Deity: "Thou hast made us for thyself, and our souls are restless till we rest in thee!"

The vegetable has the elements of the mineral, with a material organism added; the animal has the elements of the mineral and vegetable with a material organism and an electric body and instinct added. The animal may possibly live hereafter in his electric body or secondary form. Man has the elements of the mineral and vegetable, the material body and the electric body of the animal, and added to all these he has a psychic or spiritual body, which links him to Deity, and makes him the epitome of all creation, the child of God and the universe, and the sovereign of eternal life, love and destiny.

The recent discovery of a man's skull at Lansing, Kansas, found sixty feet below the earth's surface, under many stratas of rock formation in the ooze at the bottom of a sea that existed in the glacial period, shows a cranial or brain development equal to the average man of the present day. This skull, estimated by scientists to be from thirty to forty thousand years old, with such a splendid head formation, shows conclusively that man was never evolved from the animal creation, but is a separate and superior being above the animal, and lord over all the animal creation.

This Lansing skull is one of the greatest discoveries of the age and confirms man's high lineage and ancient residence on this revolving planet, and supports Moses and the Bible.

Also the recent discoveries in the ruins of Ninevah, Babylon, Nipur, and other ancient cities of Asia Minor, and also in Egypt, reveal written leases and other documents eight thousand years old, which show that man has possessed superior knowledge and intelligence from the earliest periods of the world's history, and tend to support the biblical theory that man was a special creation, and not an evolution in his psychic nature from the lower animals.

Man and human history, while complicating, does not alter the real force and nature of evolution. While it is said "the history of the world is the biography of great men," yet if Alexander, Cæsar, Napoleon, Frederick the Great, William the Conqueror and other great men were eliminated, it would have had little effect in disturbing the steady onward course of the world's development.

Great men are the images, symbols and instruments taken at random by the constant and mighty forces of their age and times which stood behind them and swept them onward in their great careers. They were the pens of Fate used in her writing, the weather vanes of destiny which turned the way the currents and tides of invisible forces were blowing.

Humanity of the past and present is not final but progressive. Man's marvelous discoveries in science, his aesthetic culture and spiritual growth makes the future of the race the most persistently fascinating question of the age.

Man is not a mere animal, but is one with Deity, and a part of that unseen spiritual power which directs the stars in their infinite courses, gives electric brilliancy to the all-dazzling sun, paints the dawn and the aurora, colors the gorgeous wings of the butterfly, and guides insensate matter to do the will of Omnipotence.

CHAPTER V

MAN IS A SOUL CLAD IN AIR, A SPIRIT IN AN ELECTRIC ORGANISM

My claim that man is an electric organism is confirmed by Professor Loeb and Dr. Mathews in their recent experiments at the Chicago University.

"Electrical charges in the atoms of the bodily tissue are responsible for all the active phenomena of life. In other words, electricity is the basis of life." This is the sweeping conclusion with which Dr. Jacques Loeb amazed the physiologists gathered in their last annual meeting at the Chicago University.

Hitherto it has been taken for granted by men of science that the food we eat nourishes us by furnishing the tissues and muscles of the body with thermo or heat energy. This, according to Professor Loeb, is totally wrong. Instead of the food furnishing the muscle with heat energy, it supplies electrical energy, which, after being converted into mechanical energy, is responsible for all the muscular contractions and organic processes of living organisms.

He has arrived at this conclusion after many years of intricate and difficult experiments along the line of reproduction of animals, of determining the effect of salt on the heart-beat and its rhythmic motion, and on other muscles, and of the destructive processes at work in the eggs of simple unicellular animals. They have been the means of determining the answer to the one great question, "What is life?" and he regards all his previous discoveries subsidiary to this one. He received his first hint of this new theory of life through the fact that electricity is able to affect protoplasm in a more universal and effective way than any other form of stimulus. And he drew the inference that if electricity is able to affect protoplasm in the form of currents, it ought to do so in the form of ions, which is an electrically charged atom or group of atoms.

In experimenting to determine the toxic and antitoxic of ions on protoplasm, which is the basic substance of all physical life, he discovered that any one salt will act as a poison on the eggs of a sea urchin, but by adding one or more, or certain other salts, he found it was able to counteract the effects of this toxic effect. From which he concluded that the toxic and antitoxic effect of the salts were due to the manner in which its atoms are electrically charged.

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